

FIG. 1

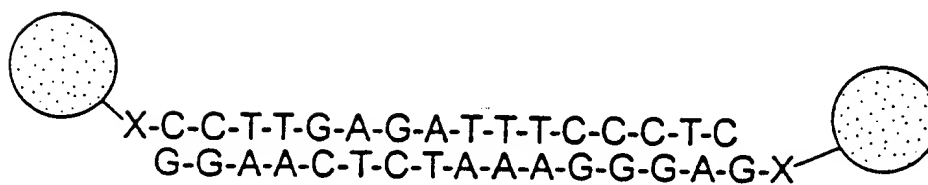
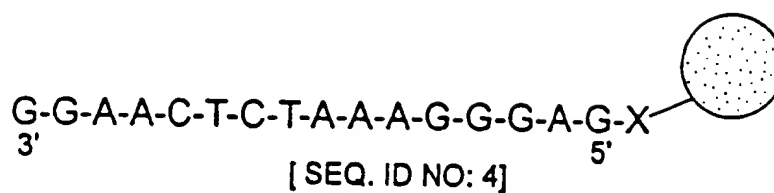
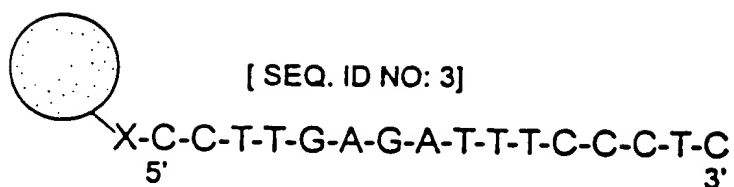


FIG. 1

FIG.2

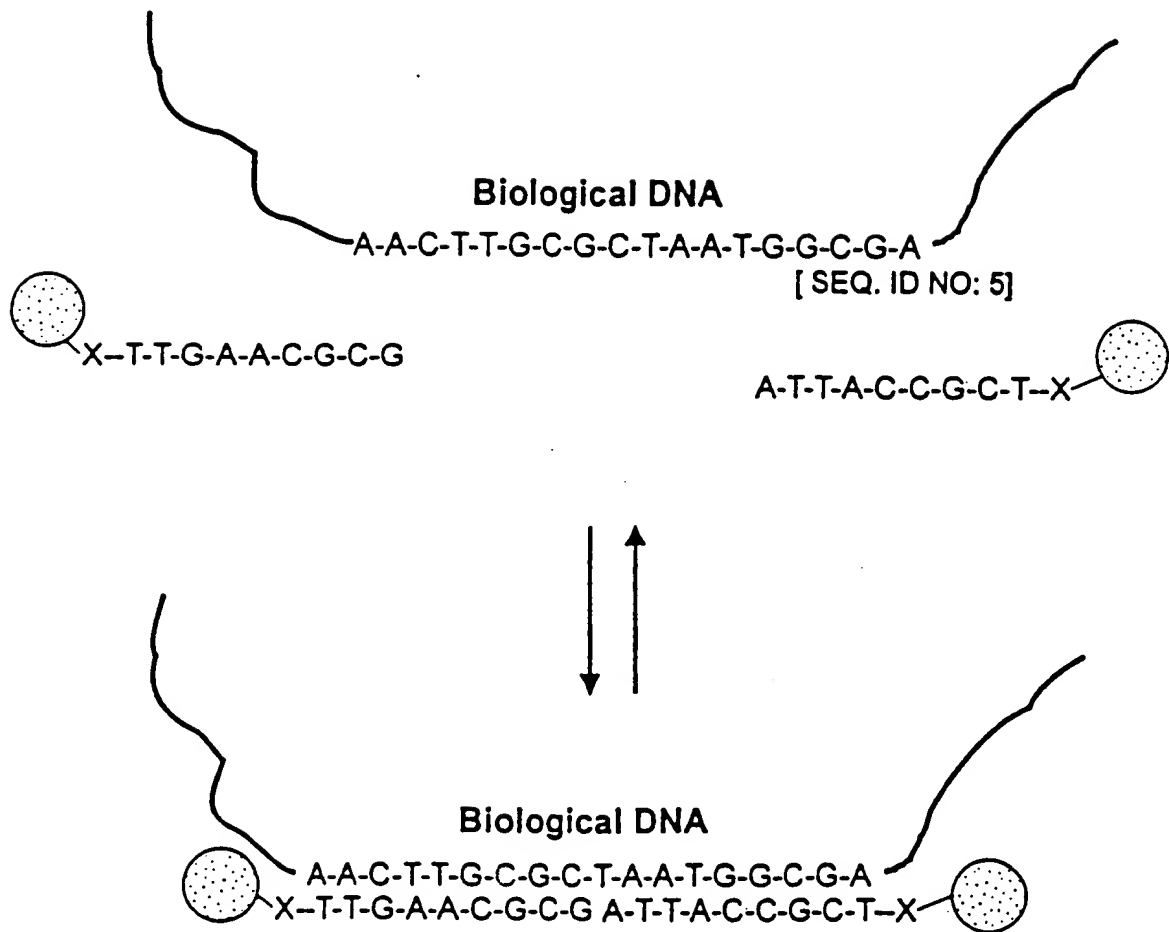
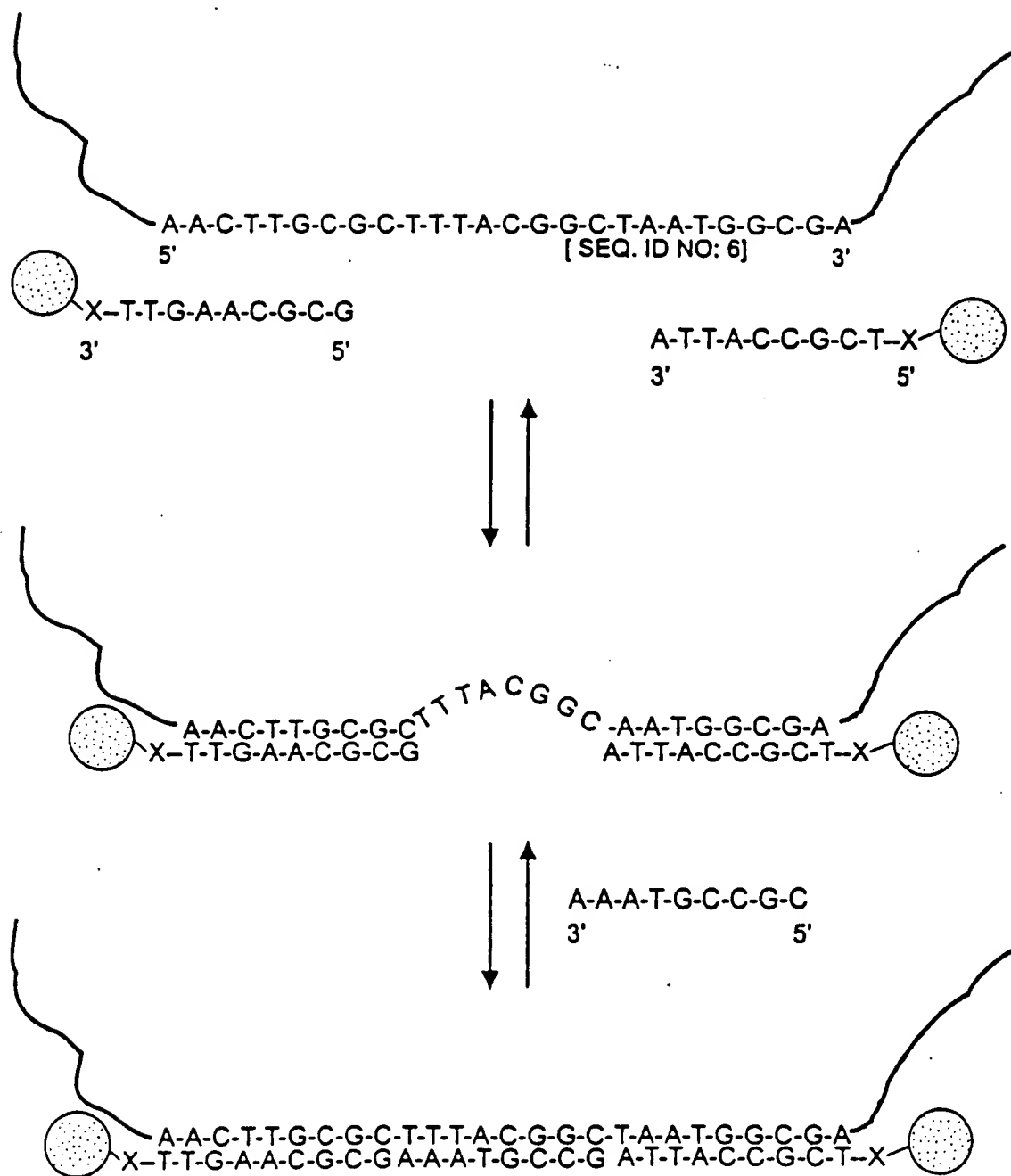


FIG.3



0976640.104304

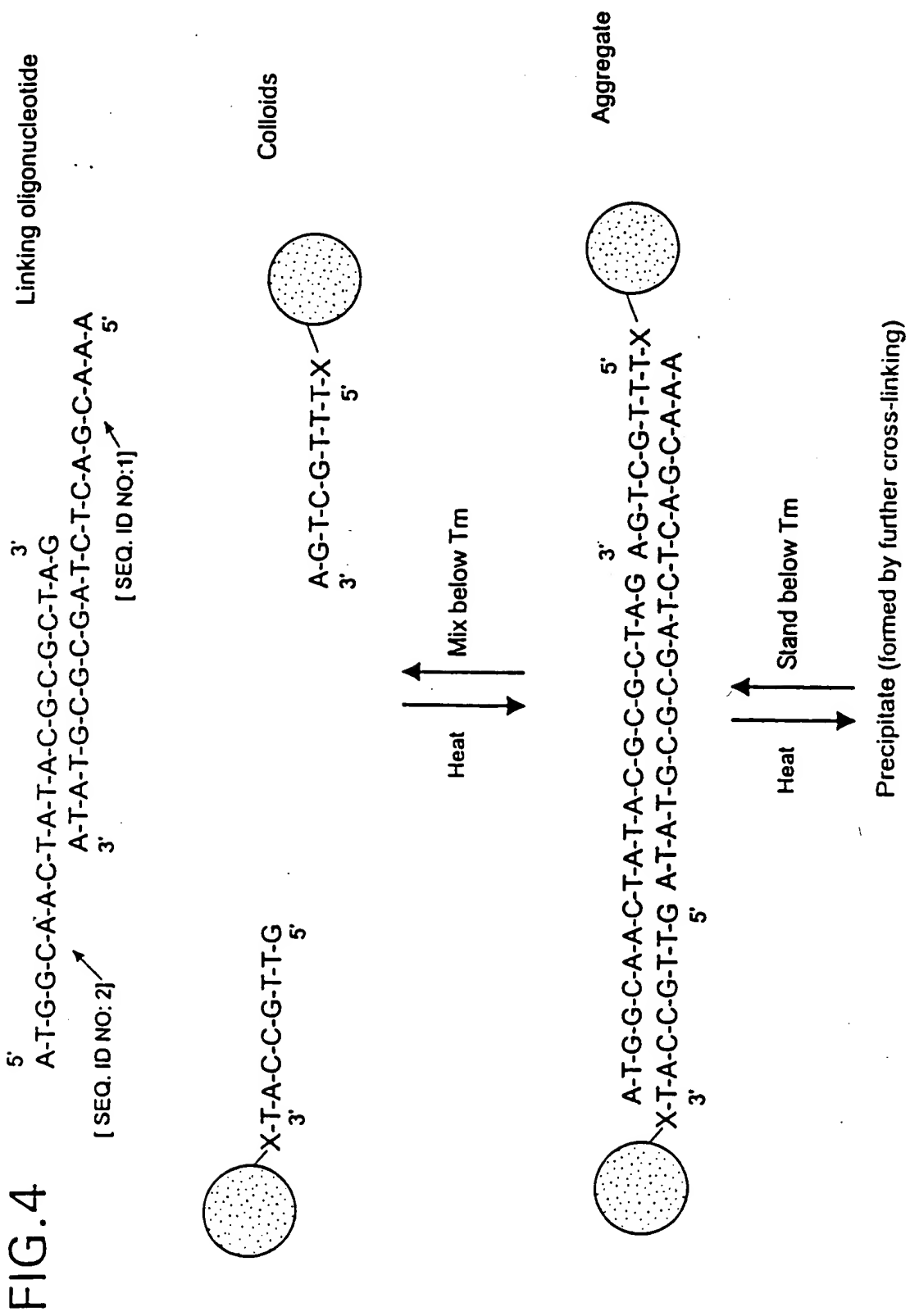
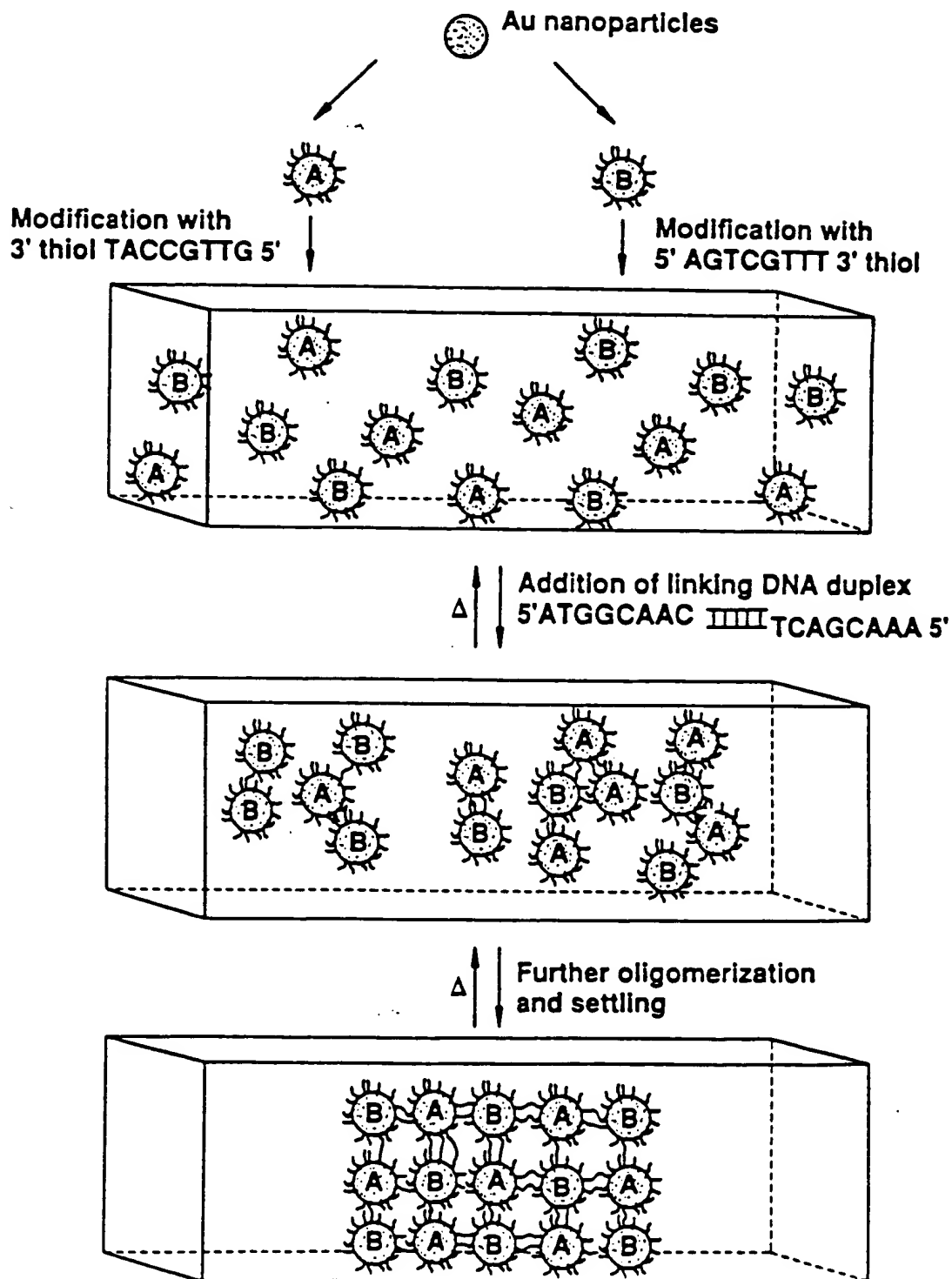


FIG.5



00076610-10104
 F02T01-01992660

[illegible]

FIG.6A FIG.6B FIG.6C

FIG. 7

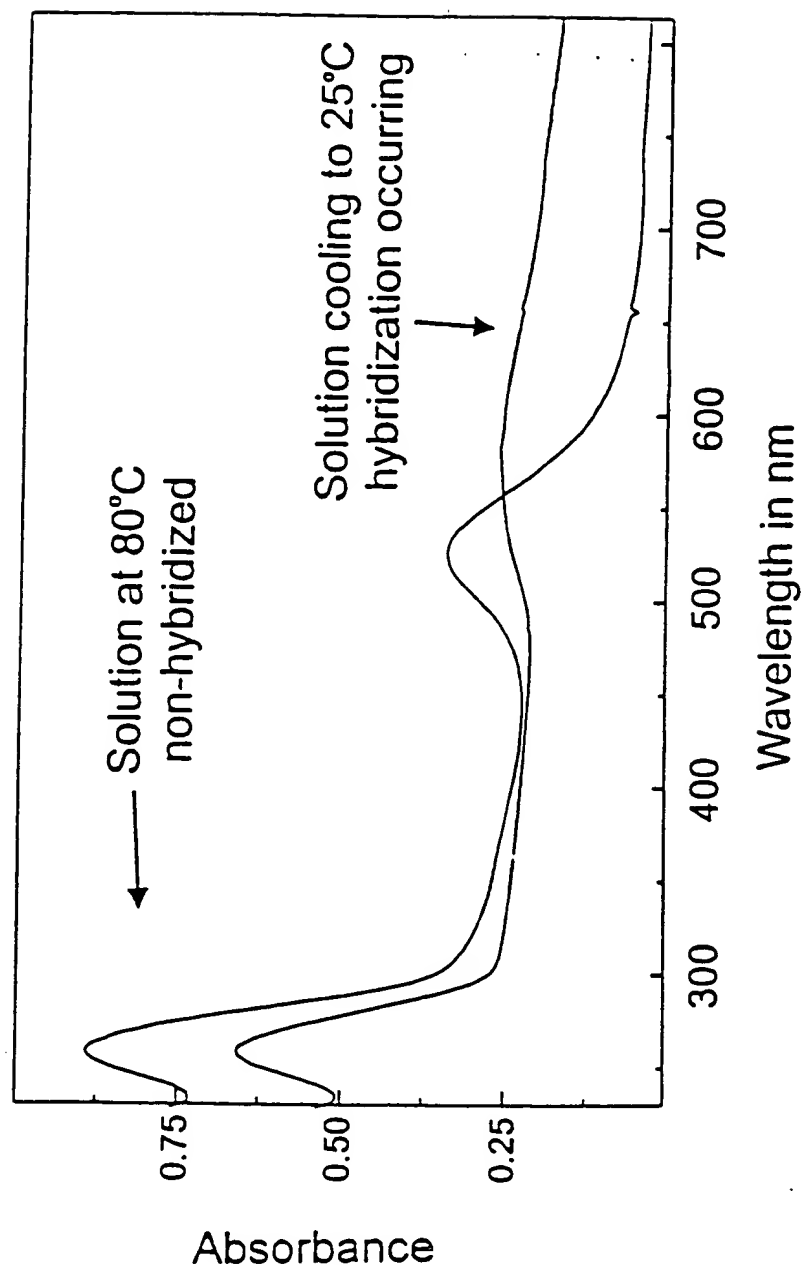


FIG. 8A

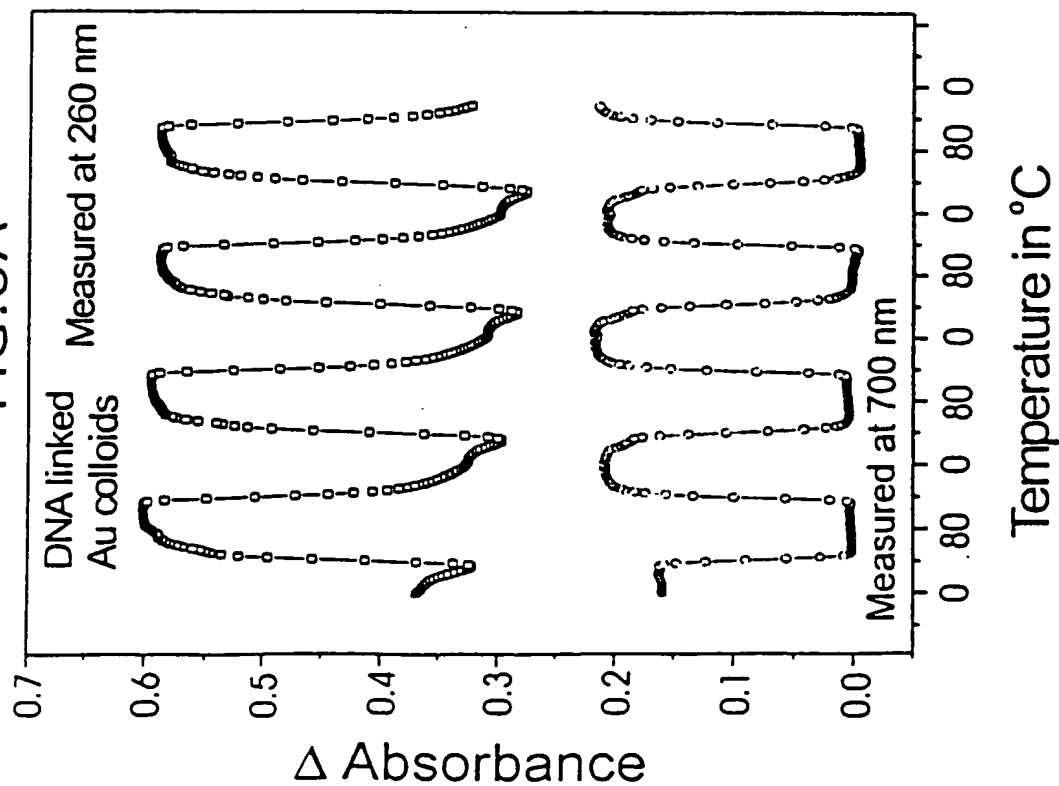
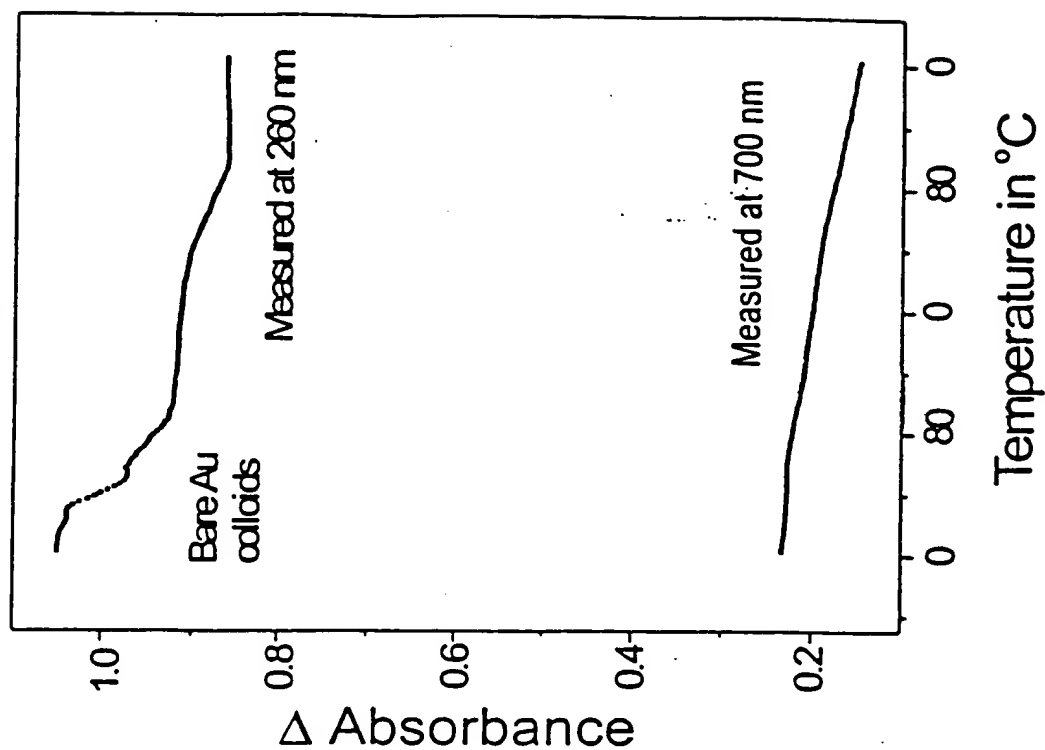


FIG. 8B



09976648-104204
F02T01 8T994660



FIG.9A

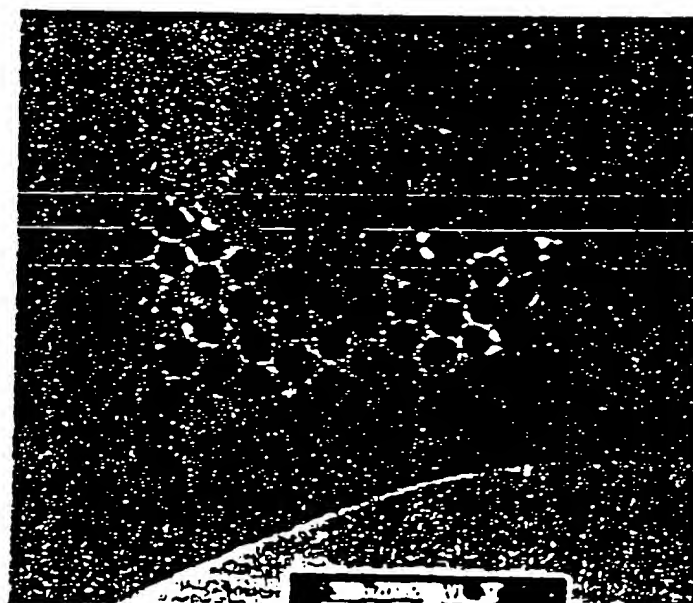


FIG.9B

FIG.10

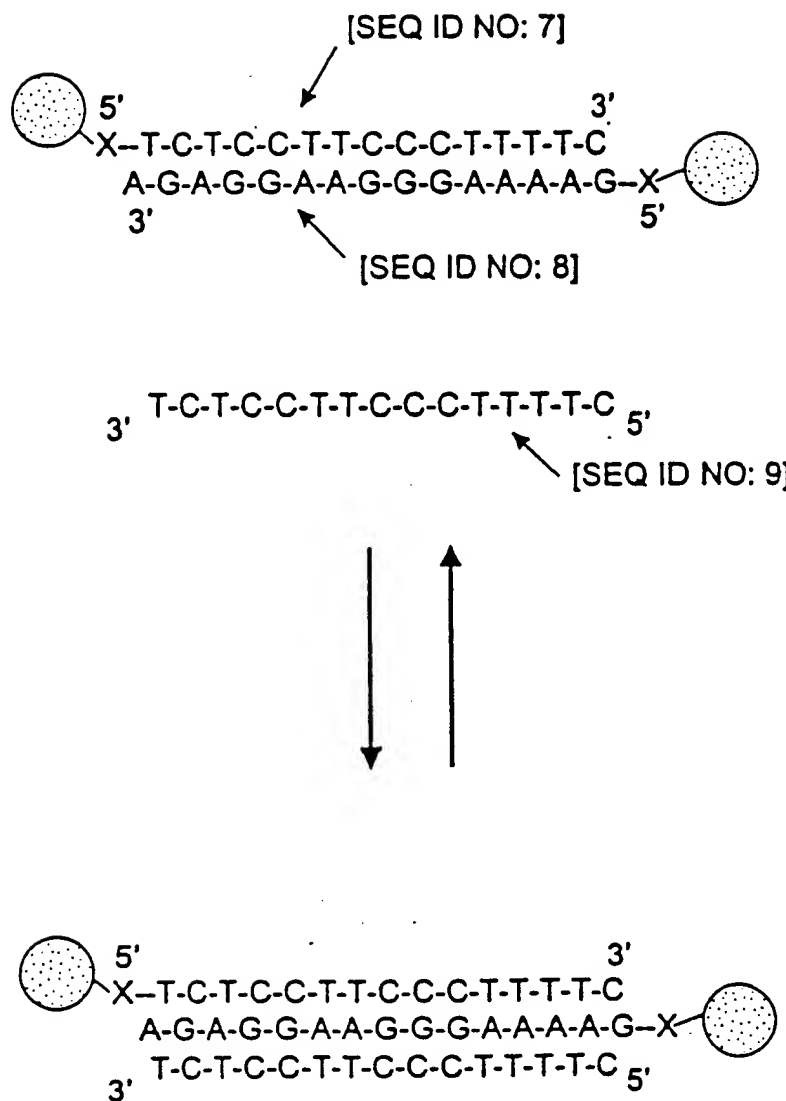


FIG. 11

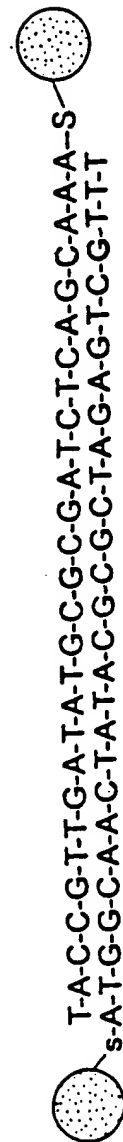
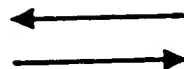
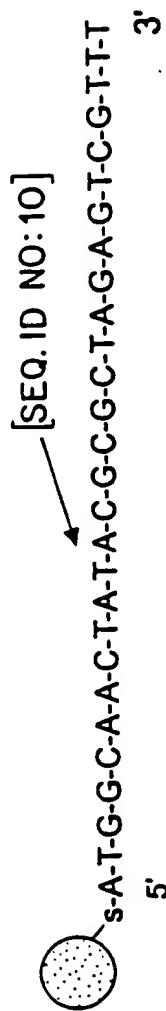


FIG. 12A

Complementary Target

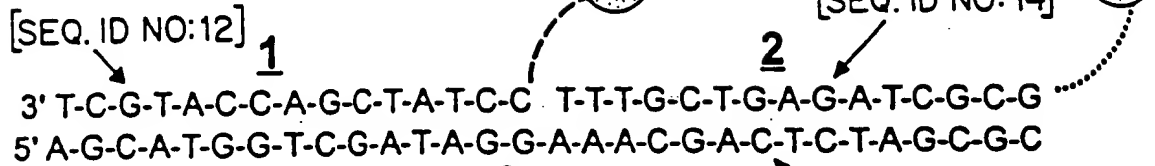


FIG. 12B

Probes without Target

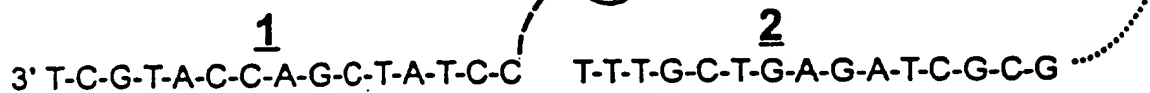


FIG. 12C

Half Complementary Target

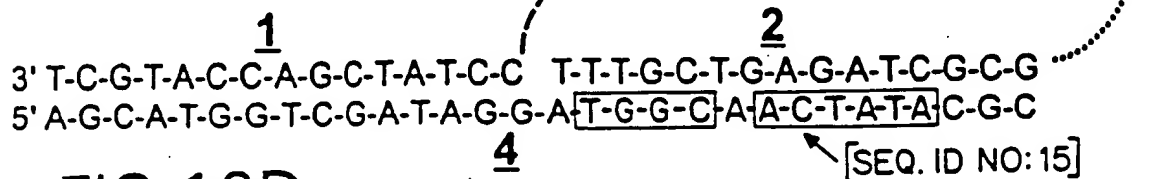


FIG. 12D

Target - 6 bp

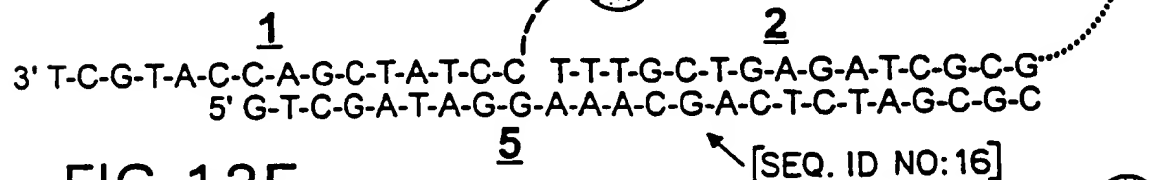


FIG. 12E

One bp Mismatch

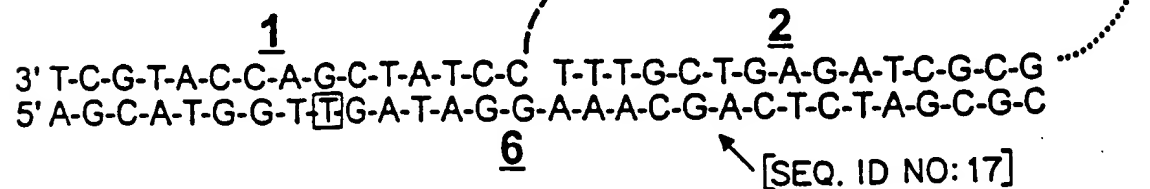


FIG. 12F

Two bp Mismatch

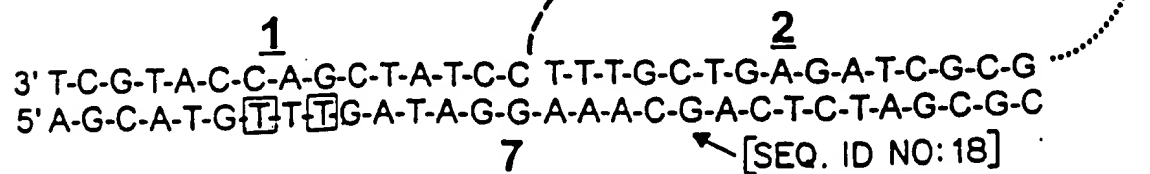


FIG.13A

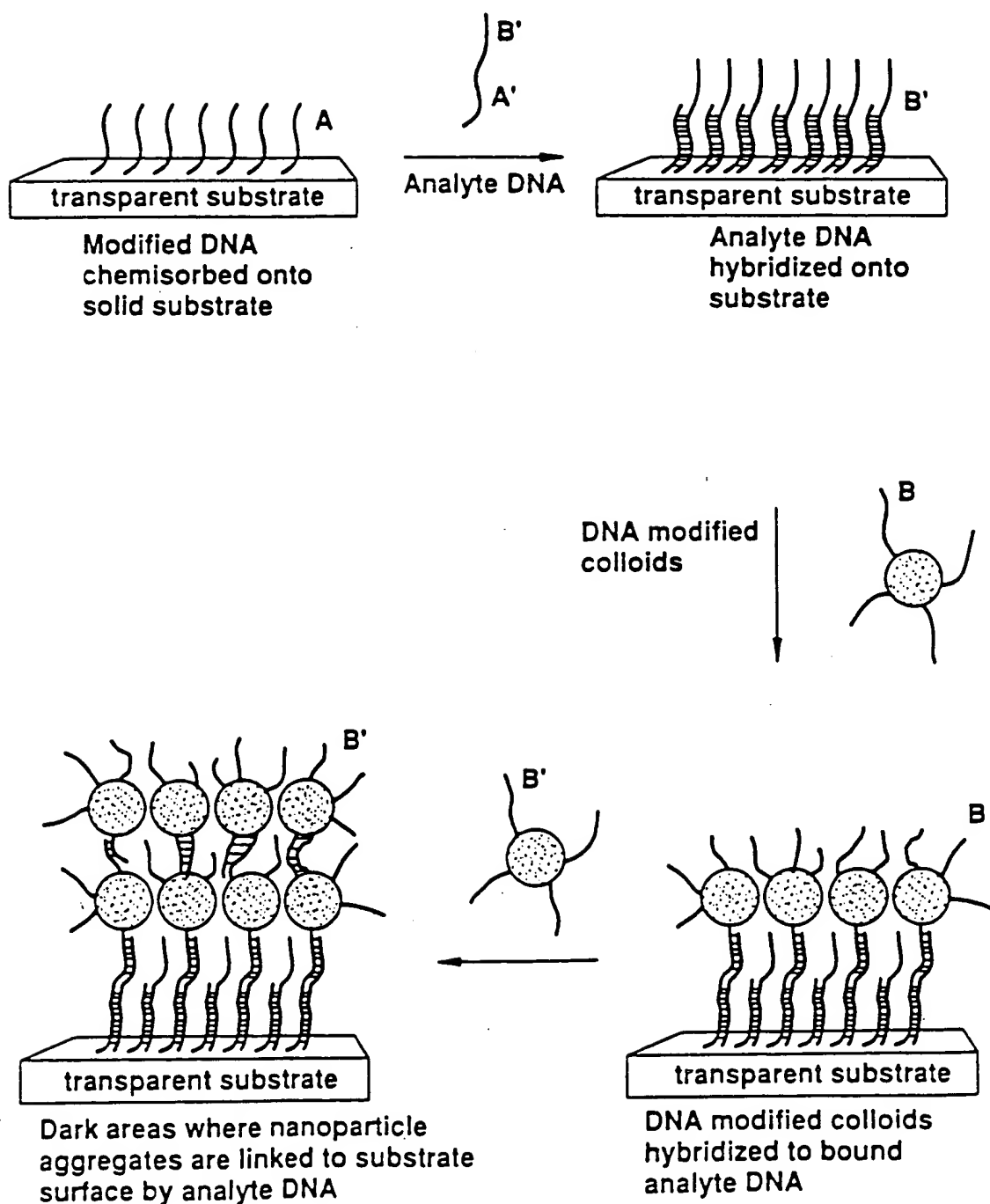
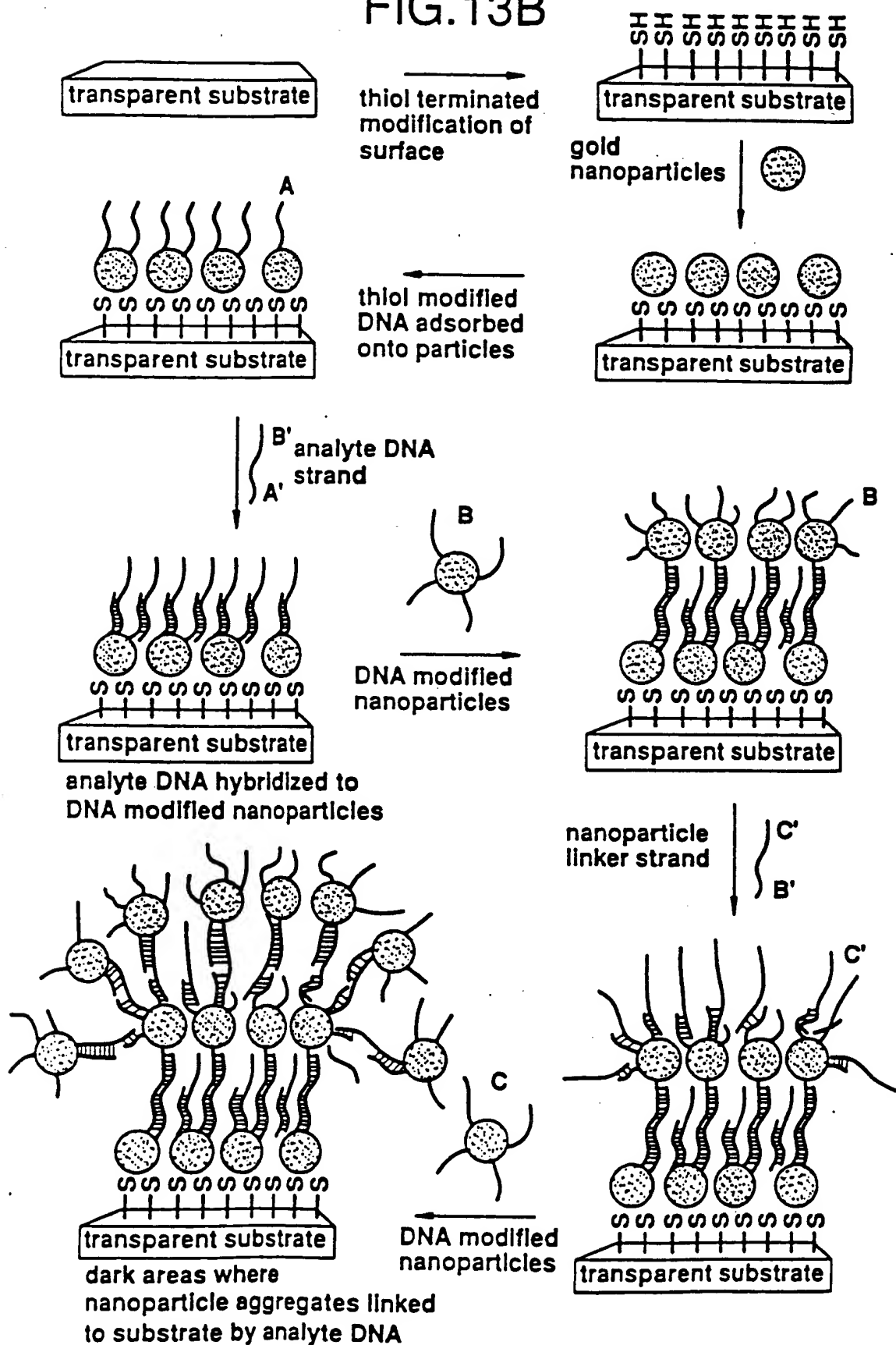


FIG.13B



097664-4-01

FIG.14A

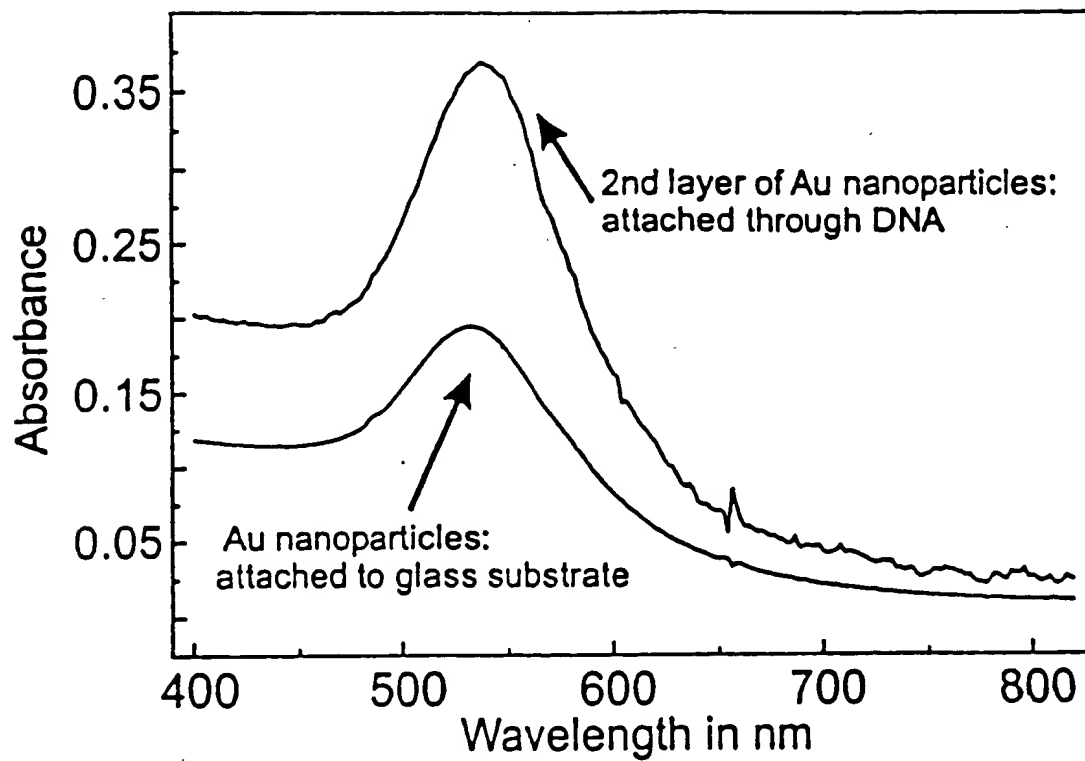
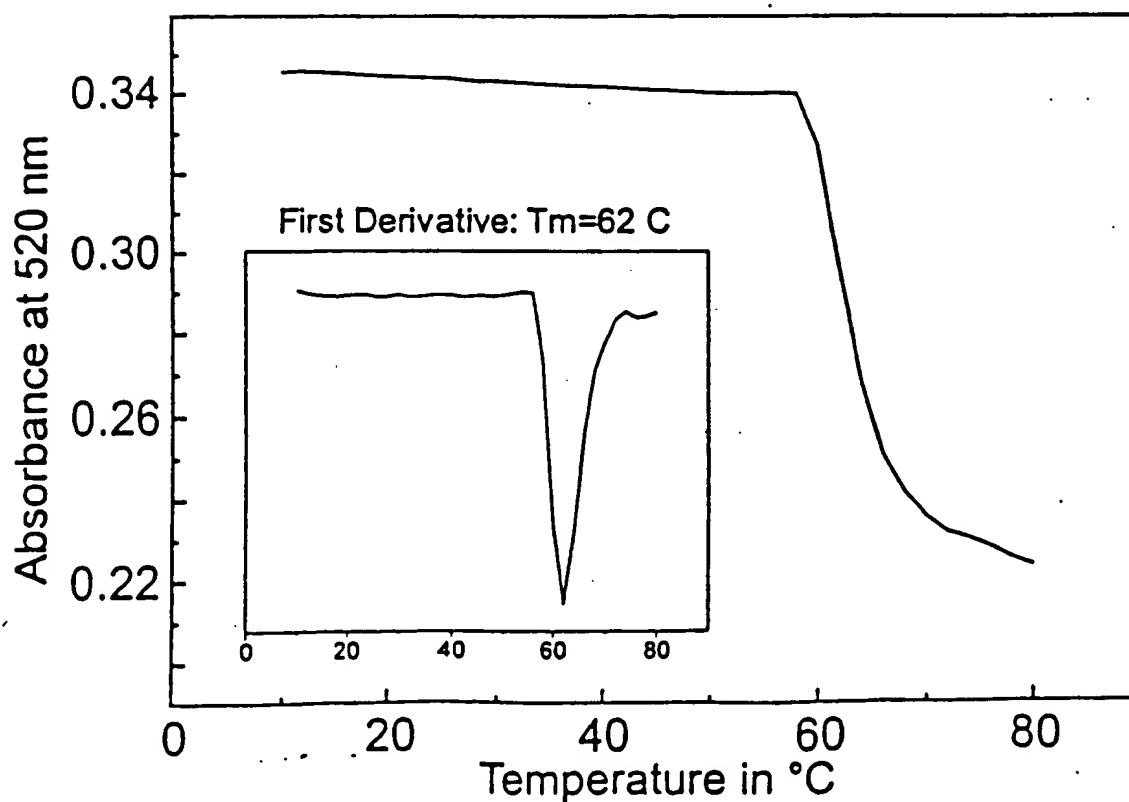


FIG.14B



Probes with No Target

FIG 15B

Half-Complementary Target

FIG15C

Complementary Target

T_m=53.5°C

FIG15D

ONE Base-Pair Mismatch at Probe Head

T_m=50.4°C

FIG15E

ONE Base-Pair Mismatch at Probe Tail

FIG15F

ONE Base Deletion

FIG15G

ONE Base-Pair Insertion

T_m=50.2°C

5' TAC-GAG-TTG-AGA-CAT-CCT-GAA-TGC-G 3' SEQ ID NO:26
S-ATG-CTC-AAC-TCT TA-GGA-CTT-ACG-C-S

FIG. 16A

24 Base Template

5' TAC-GAG-TTG-AGA-ATC-CTG-AAT-GCG 3'
 —S-ATG-CTC-AAC-TCT TAG-GAC-TTA-CGC-S —

1

2

FIG. 16B

48 Base Template with Complementary 24 Base Filler

5' TAC-GAG-TTG-AGA-CCG-TTA-AGA-CGA-GGC-AAT-CAT-GCA-ATC-CTG-AAT-GCG 3'
 —S-ATG-CTC-AAC-TCT GGC-AAT-TCT-GCT-CCG-TTA-GTA-CGT TAG-GAC-TTA-CGC-S —

1

2

FIG. 16C

72 Base Template with Complementary 48 Base Filler

5' TAC-GAG-TTG-AGA-CCG-TTA-AGA-CGA-GGC-AAT-CAT-GCA-TAT-ATT-GGA-CGC-TTT-ACG-GAC-AAC-ATC-CTG-AAT-GCG 3'
 —S-ATG-CTC-AAC-TCT GGC-AAT-TCT-GCT-CCG-TTA-GTA-CGT-ATA-TAA-CCT-GCG-AA-TGC-CTG-TTG TAG-GAC-TTA-CGC-S —

1

2

FIG.17A

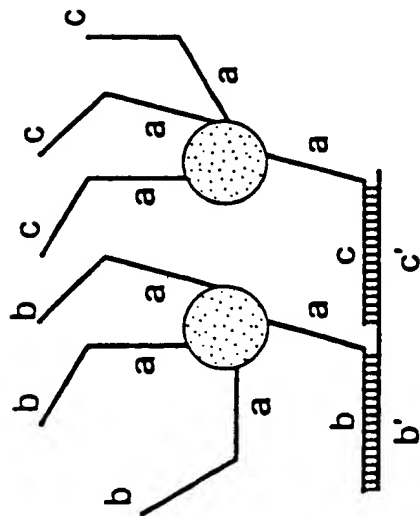


FIG.17B

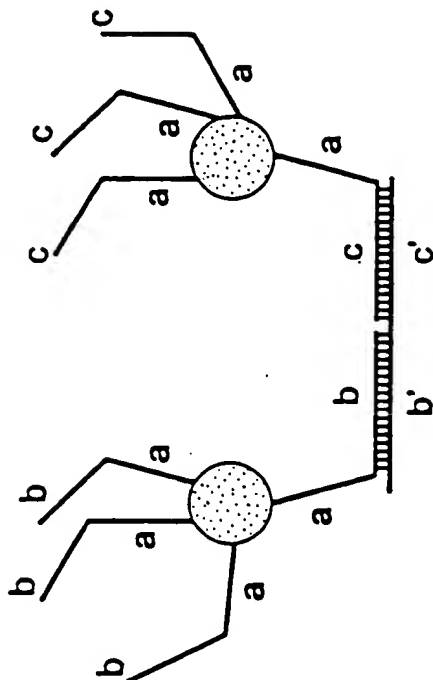


FIG.17C

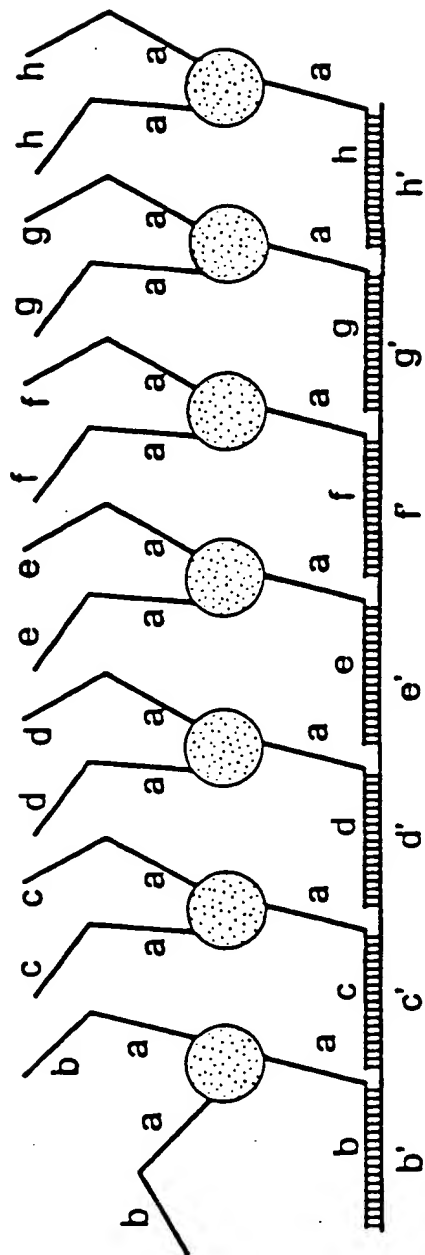


FIG. 17D

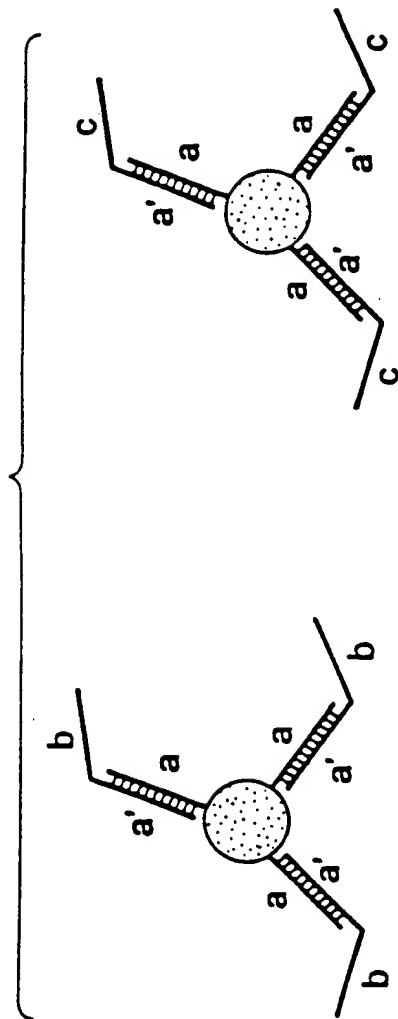


FIG. 17E

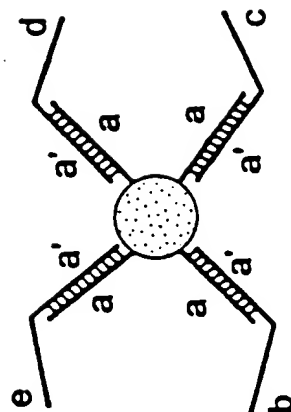


FIG.18

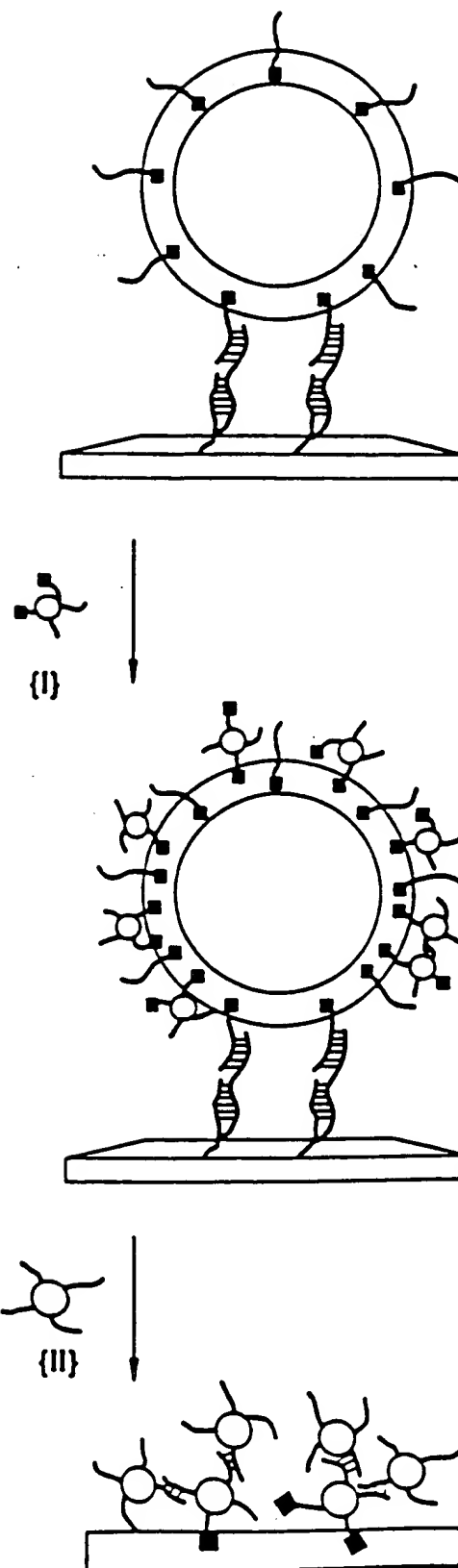


FIG.19A

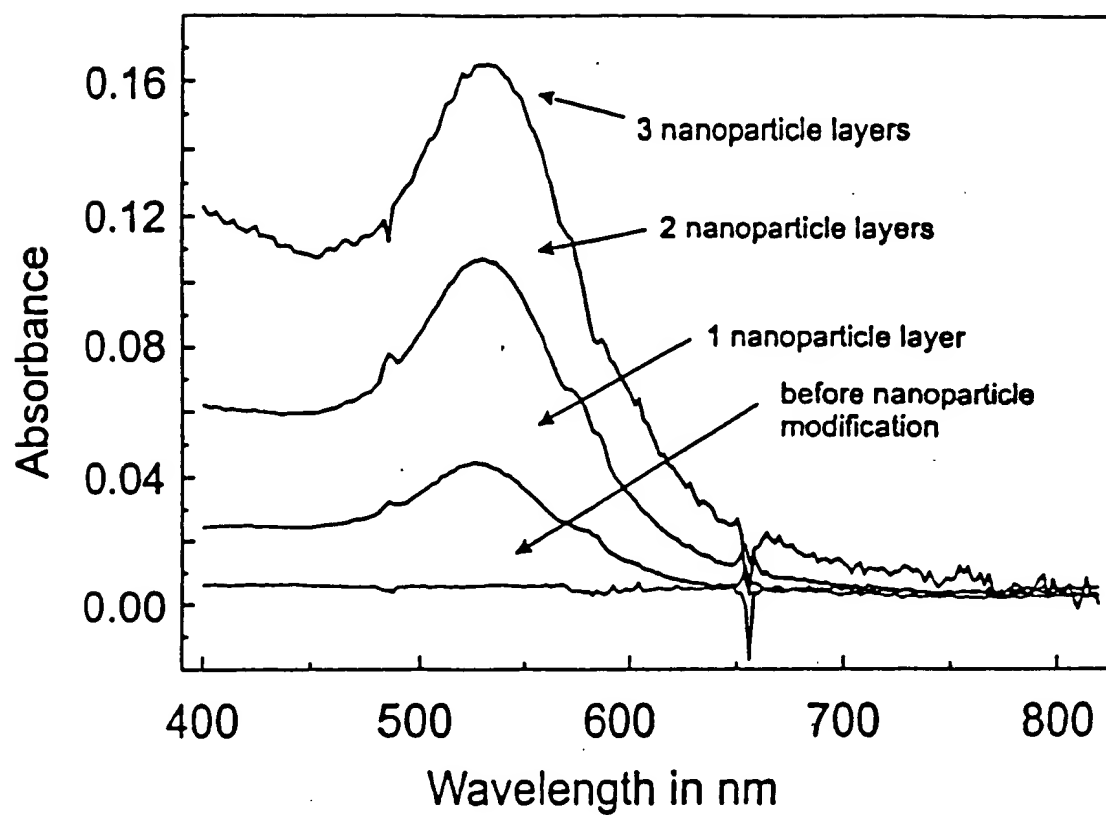
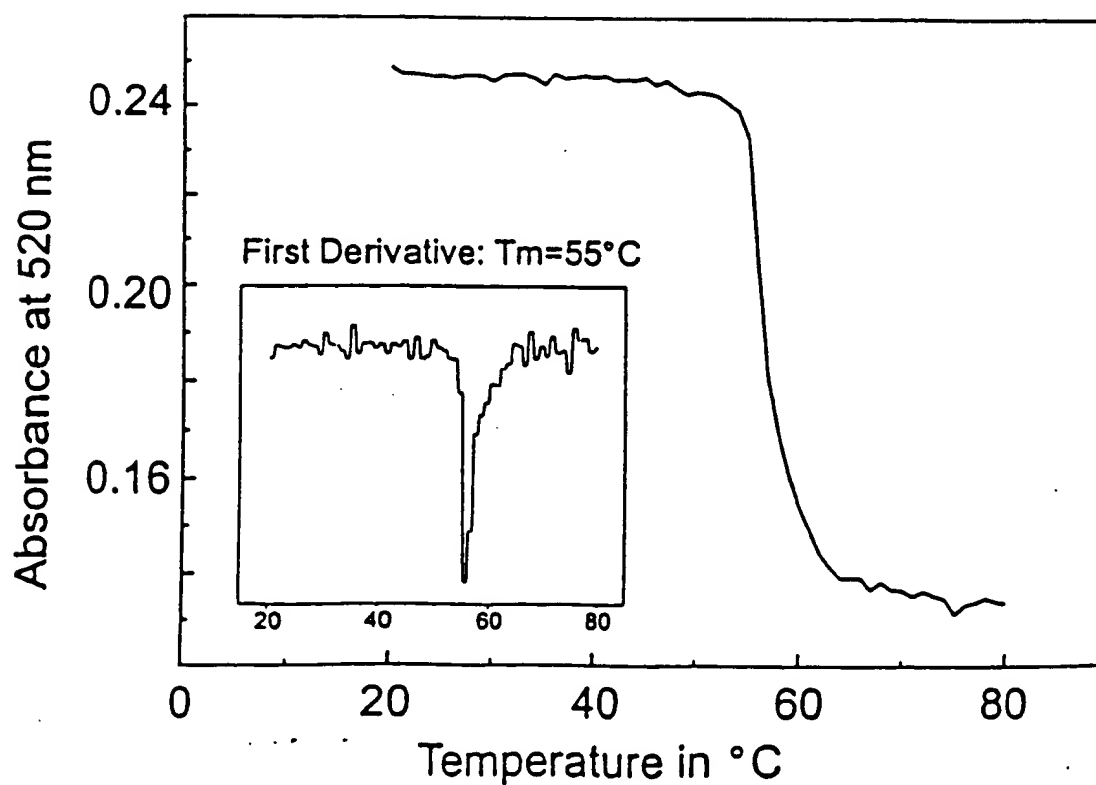


FIG.19B



00976640.104204

FIG.20A

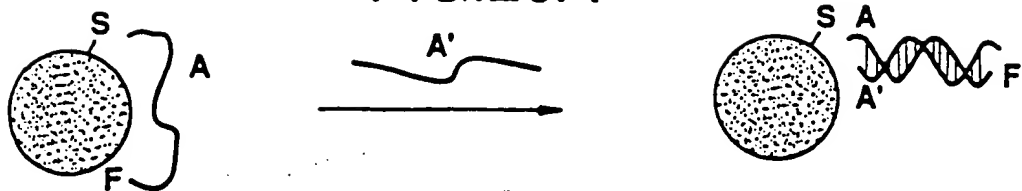
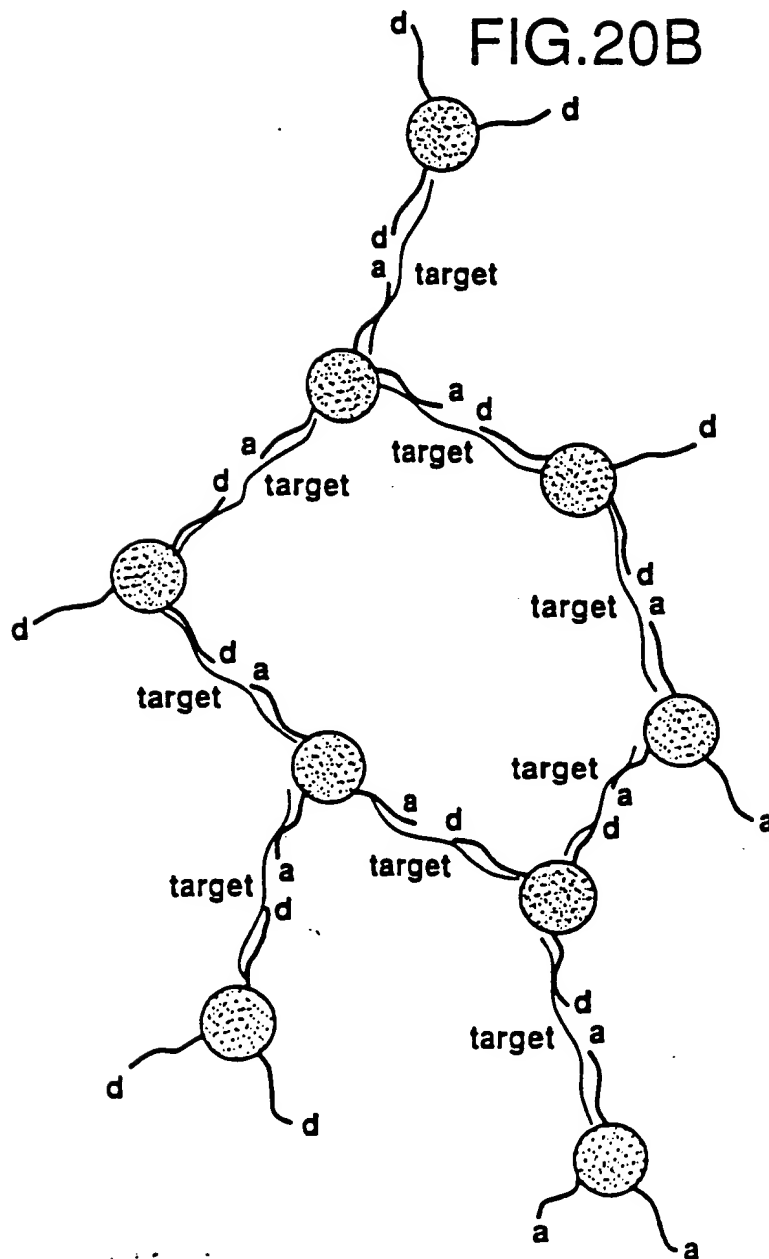
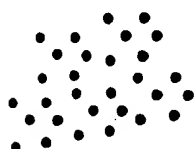


FIG.20B

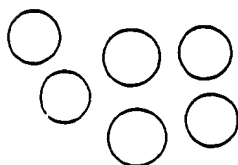


Oligonucleotide
modified Au
nanoparticle probes



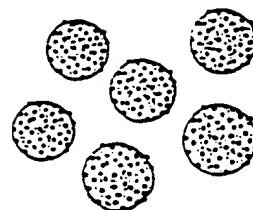
Red

Fluorophore labeled
oligonucleotide modified
latex probes



White/Fluorescent

Au/Latex hybrid

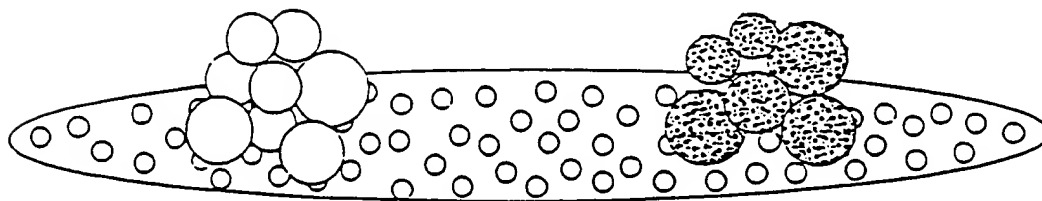


Pink/Non-fluorescent

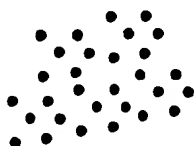
Target
Oligonucleotide

No Target
Oligonucleotide

Target
Oligonucleotide



All Au probes pass
through membrane

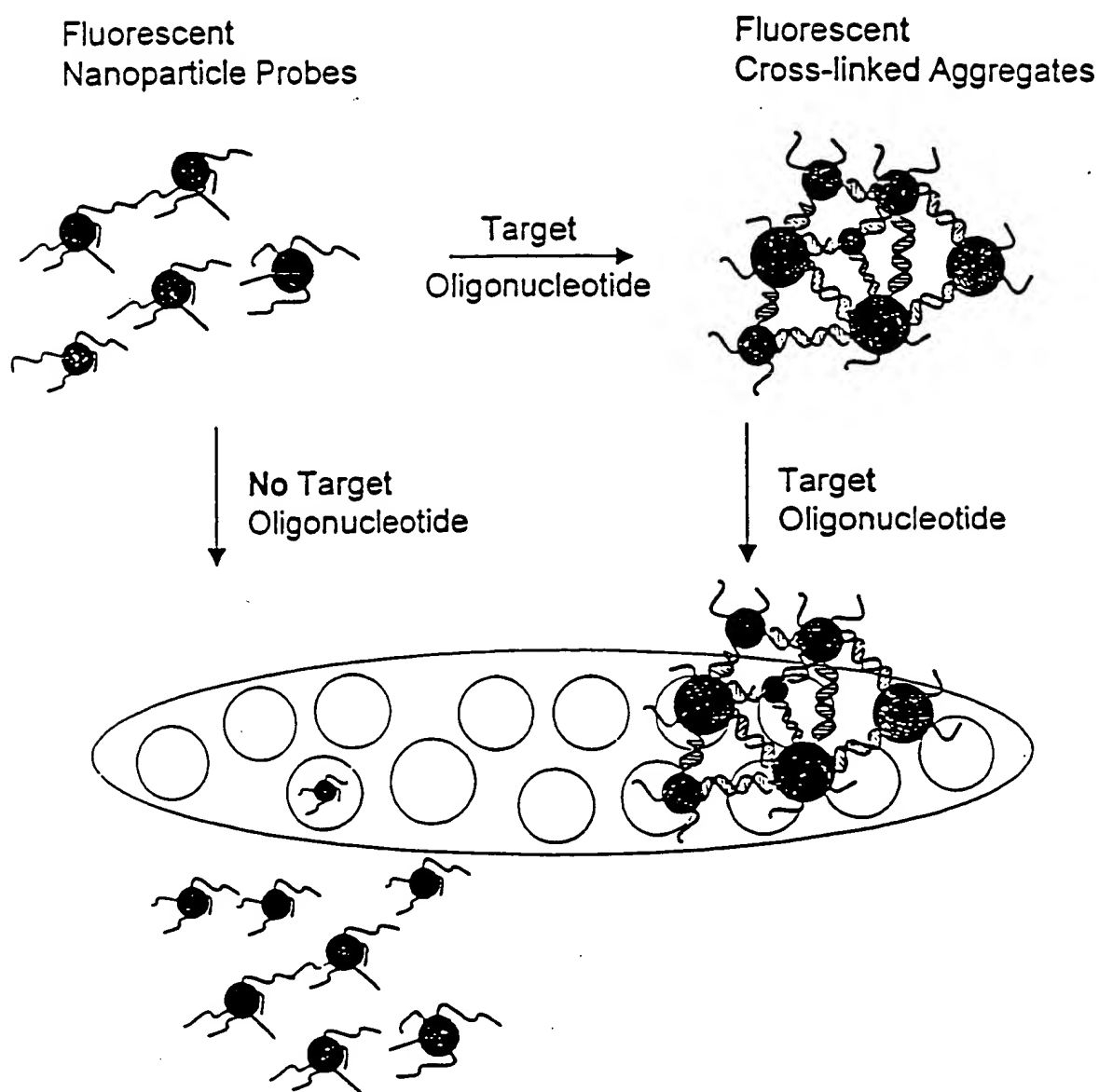


Excess Au probes
pass through
membrane



FIGURE 21

FIGURE 22



The fluorescent nanoparticle probes pass through the membrane

The fluorescent cross-linked aggregates are retained by the membrane

Anthrax PCR Product

5'G GCG GAT GAG TCA GTA GTT AAG GAG GCT CAT AGA GAA GTA ATT AAT
 3'C CGC CTA CTC AGT CAT CAA TTC CTC CGA GTA TCT CTT CAT TAA TTA

TCG TCA ACA GAG GGA TTA TTG TTA AAT ATT GAT AAG GAT ATA AGA AAA
 AGC AGT TGT CTC CCT AAT AAC AAT TTA TAA CTA TTC CTA TAT TCT TTT

ATA TTA TCC AGG GTT ATA TTG TAG AAA TTG AAG ATA CTG AAG GGC TT 3'
 TAT AAT AGG TCC CAA TAT AAC ATC TTT AAC TTC TAT GAC TTC CCG AA 5'

141 mer Anthrax PCR product [SEQ ID NO:36]



Blocker Oligonucleotides

3' C CGC CTA CTC AGT CAT CAA TTC CTC CGA GT [SEQ ID NO:39]
 3' A TCT CTT CAT TAA TTA AGC AGT TGT [SEQ ID NO:40]
 3' TAT TCT TTT TAT AAT AGG TCC CAA TAT [SEQ ID NO:41]
 3' AAC ATC TTT AAC TTC TAT GAC TTC CCG AA [SEQ ID NO:42]

Figure 23

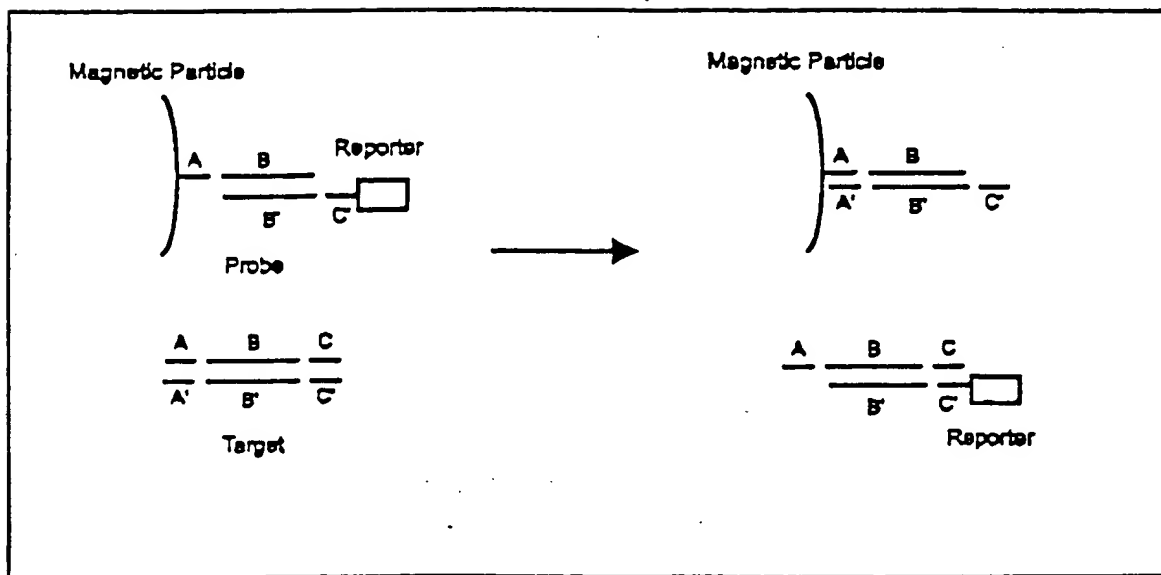
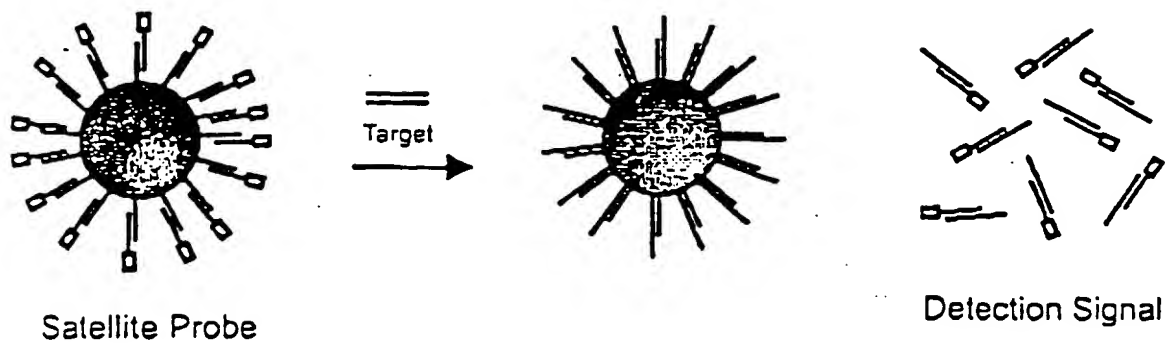


FIGURE 24

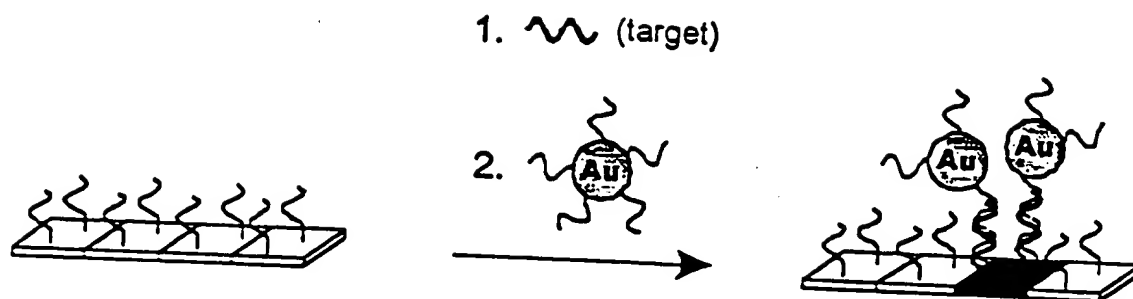


FIGURE 25A

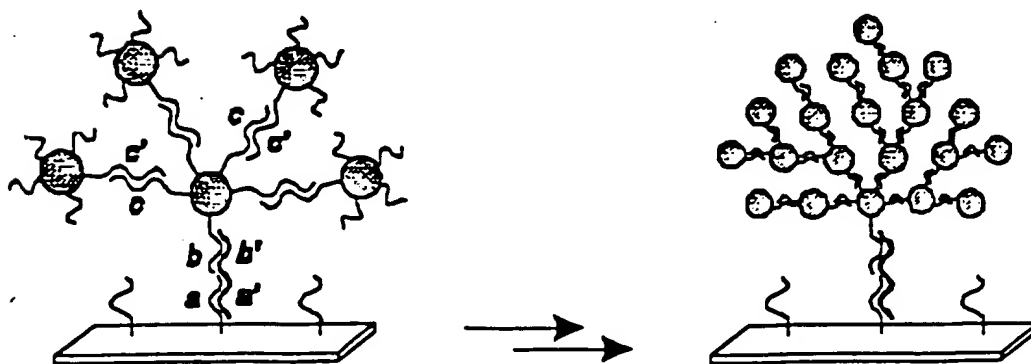
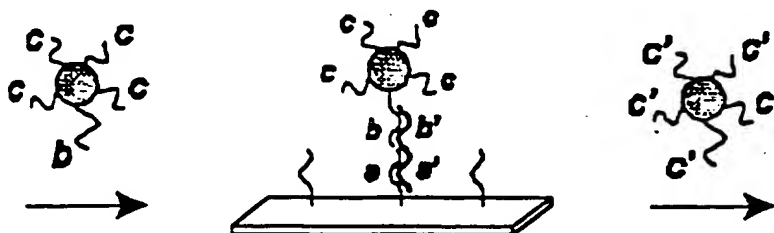
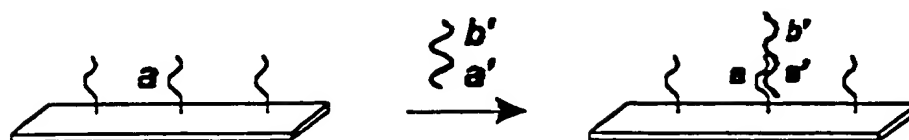
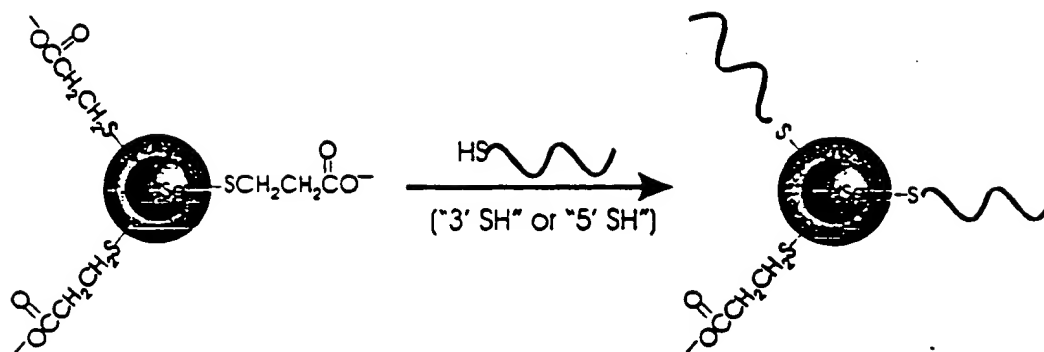


FIGURE 25B

00976610-101201

A



B

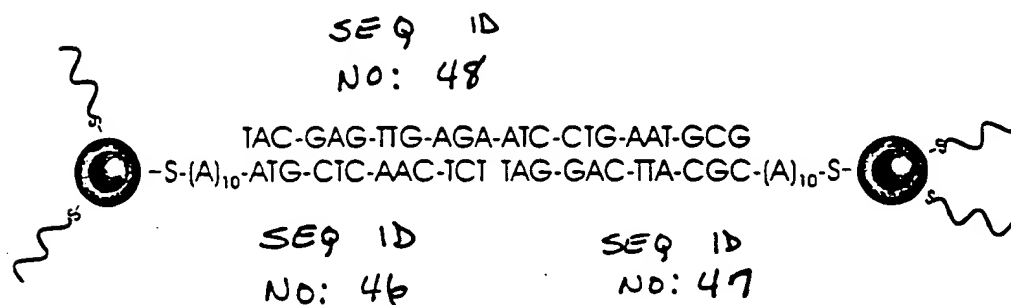


FIGURE 26

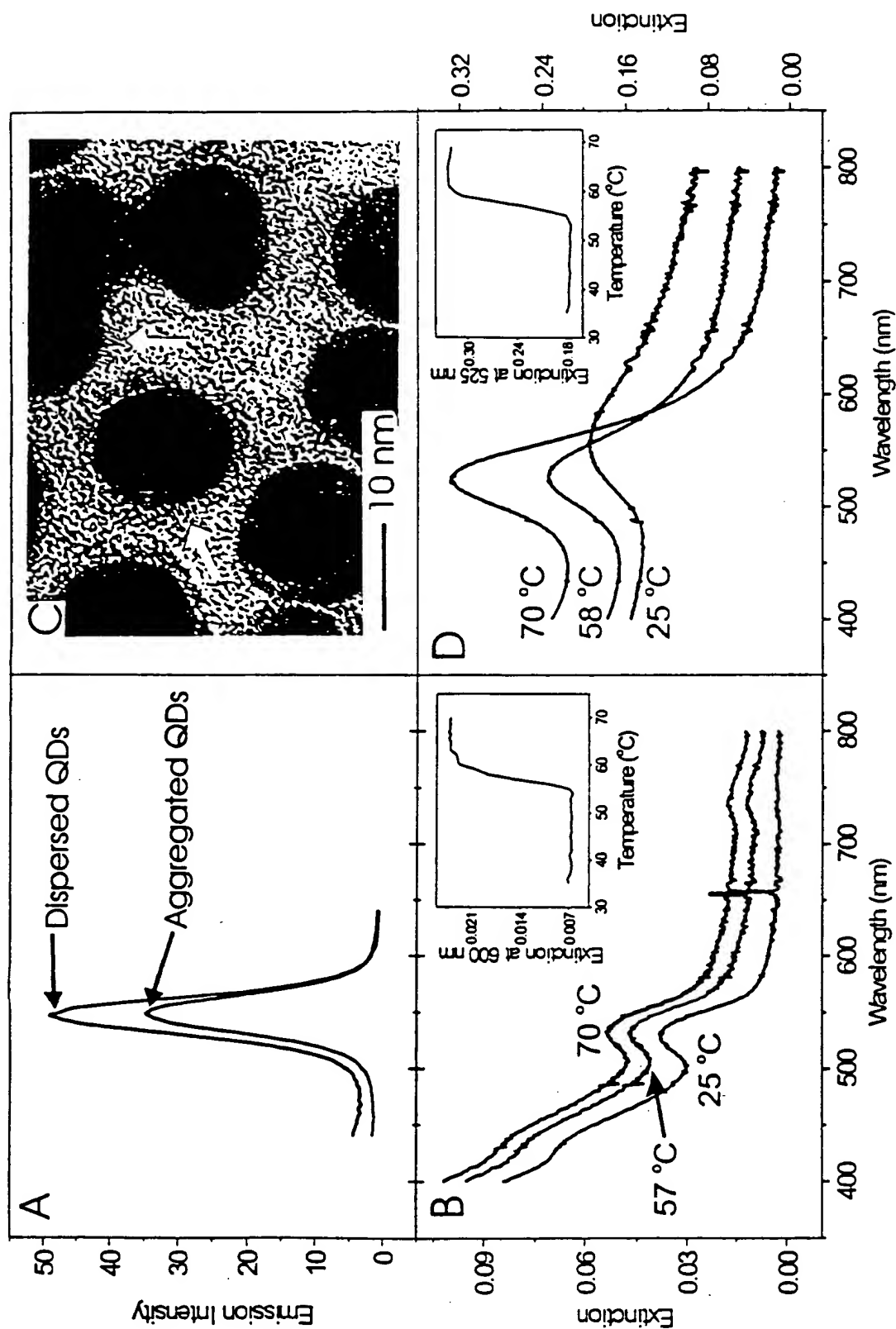
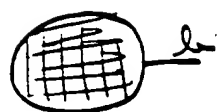



FIGURE 27


 AGGREGATE
 PROBE

+ $\frac{b' \quad c'}{\text{TARGET}}$ + 

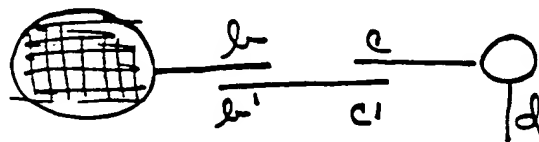
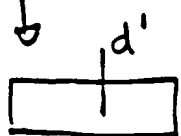
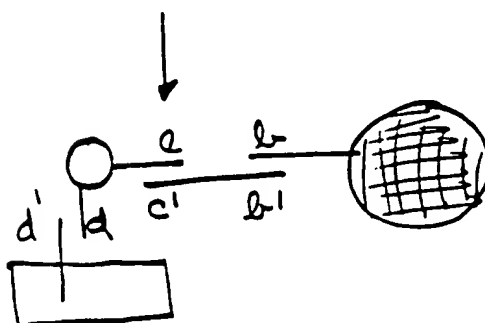


FIG. 28D

REMOVE EXCESS
 BY CENTRIFUGATION



+  SUBSTRATE



00976E10-101201
 102707 87392660

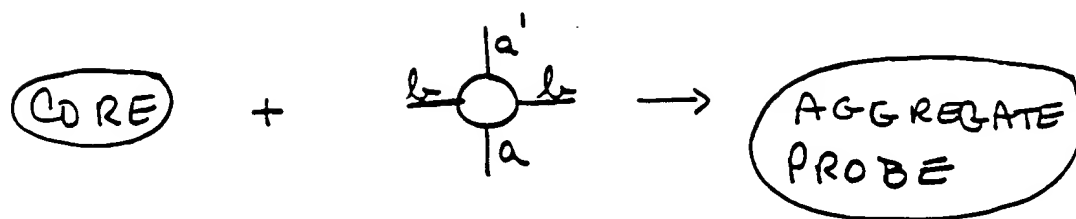
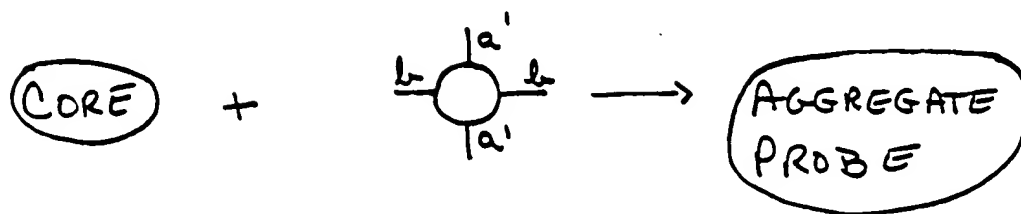
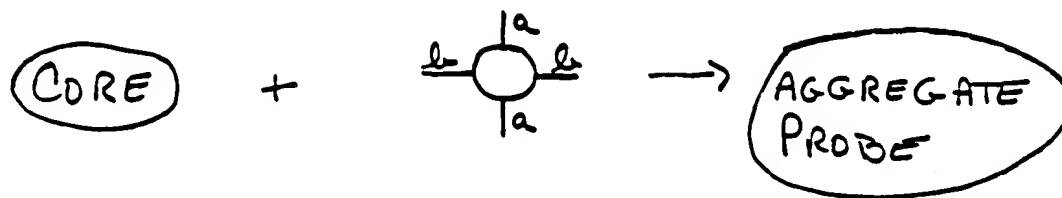
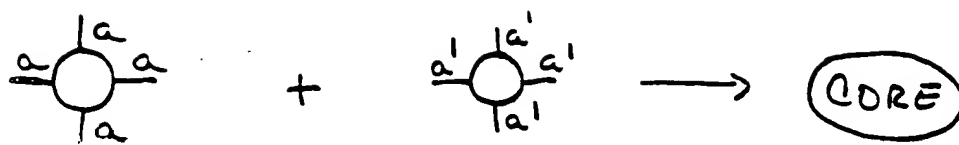


FIGURE 28A

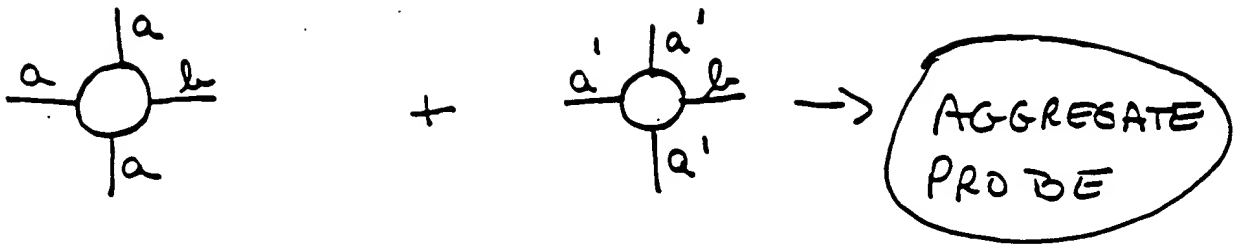


FIGURE 28B

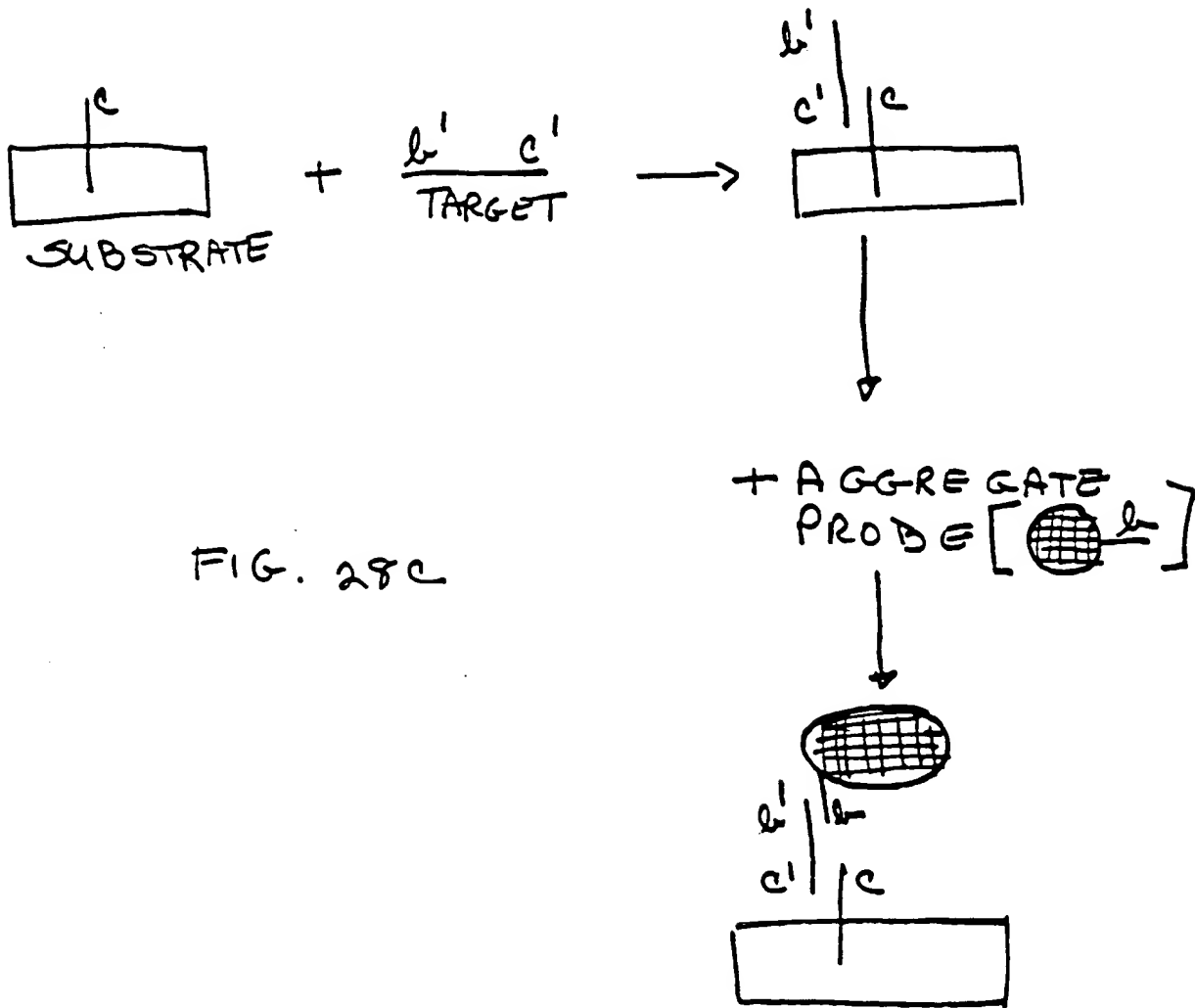


FIG. 28C

0976610-01204
FIG. 28C

00926618-101201
FOUO-07992600

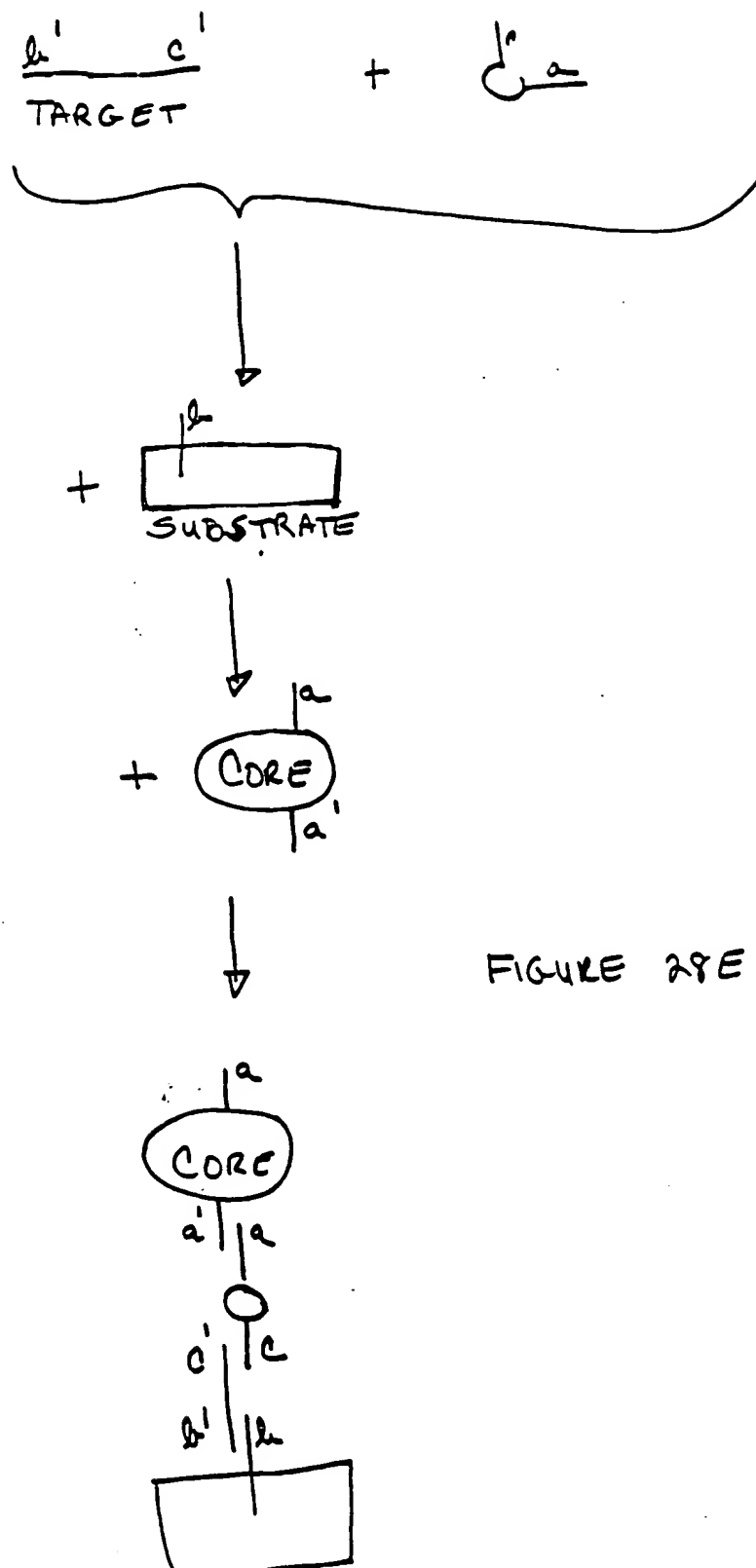


FIGURE 28E

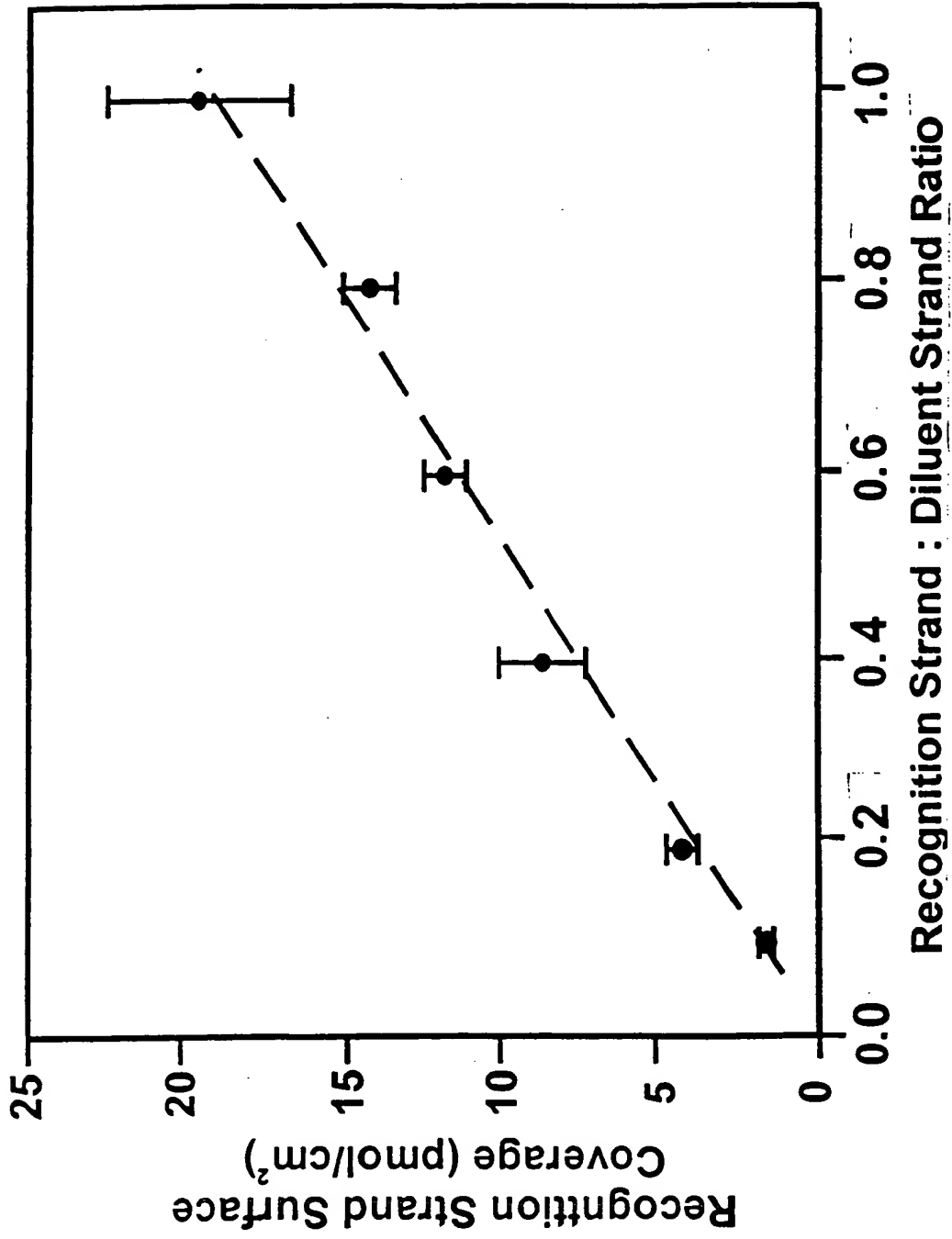


Figure 30

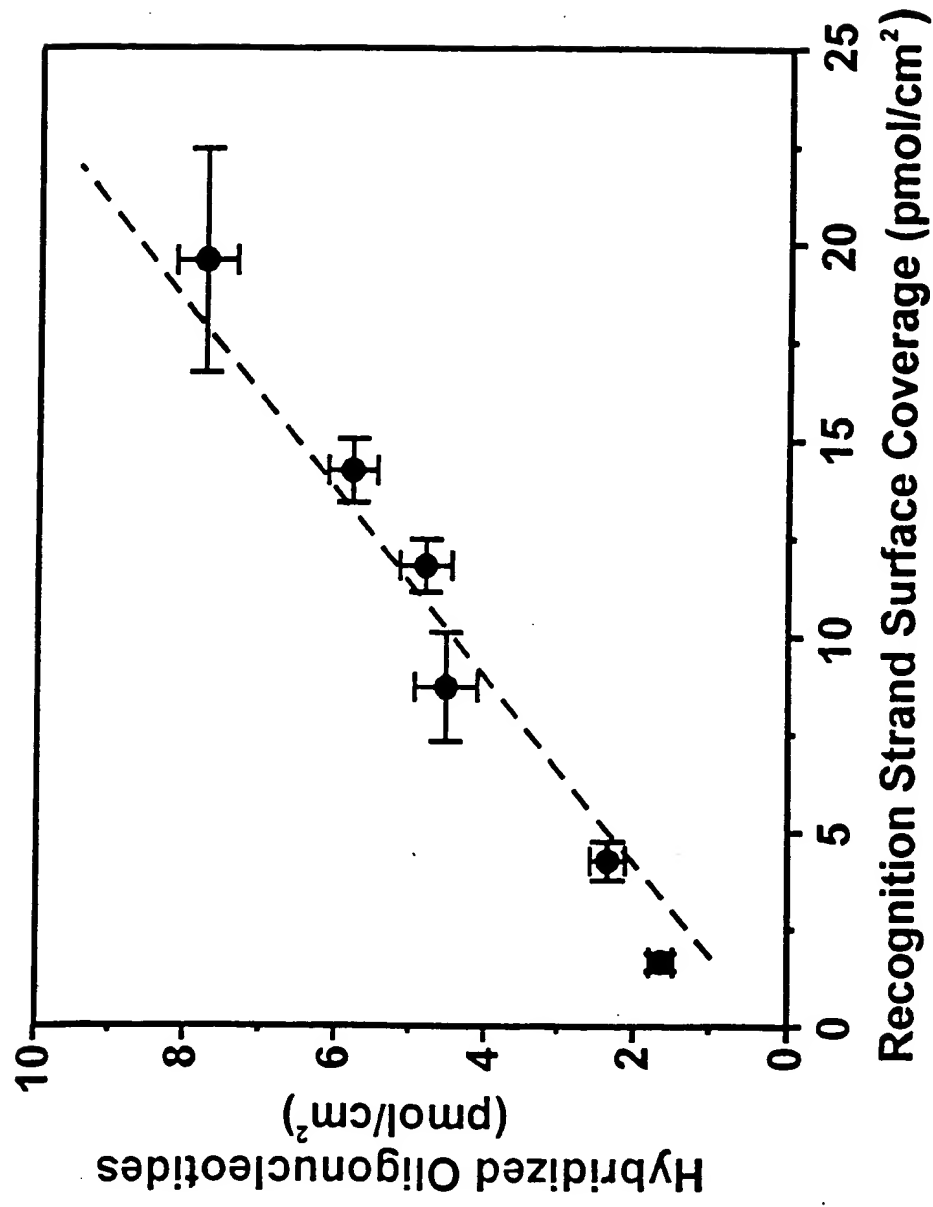


Figure 31

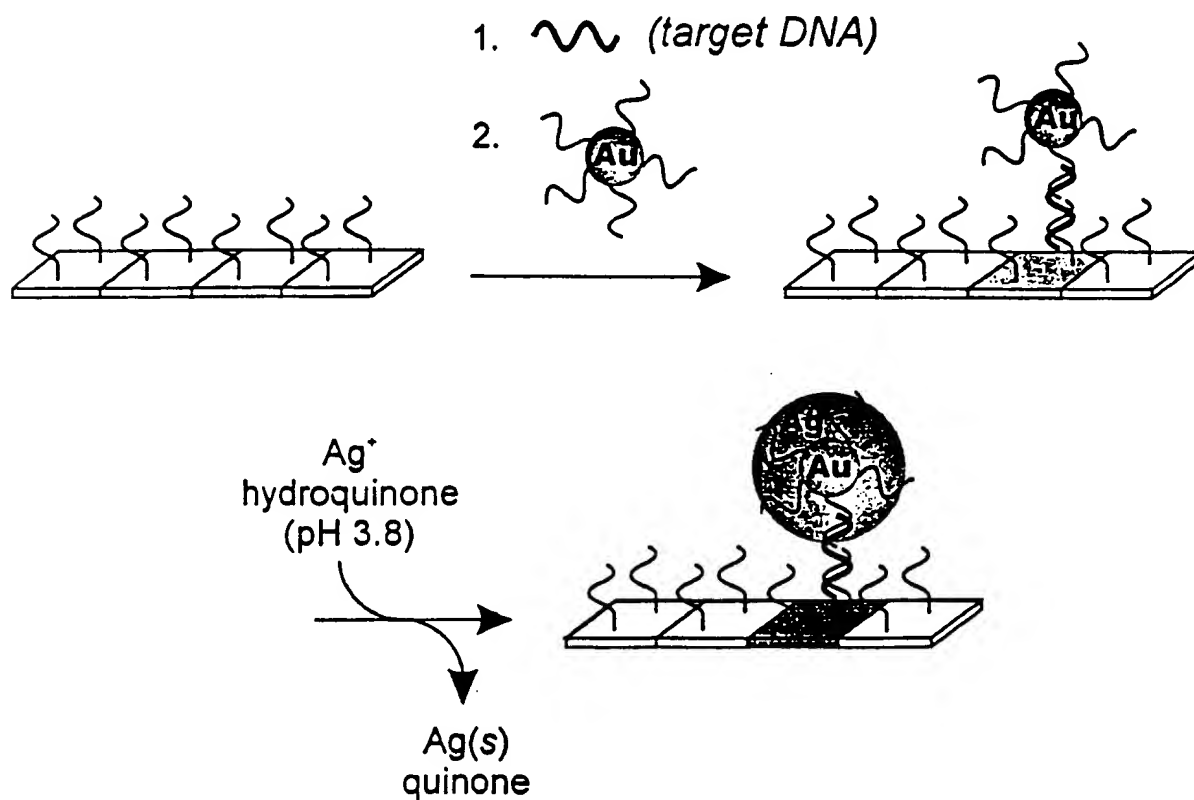
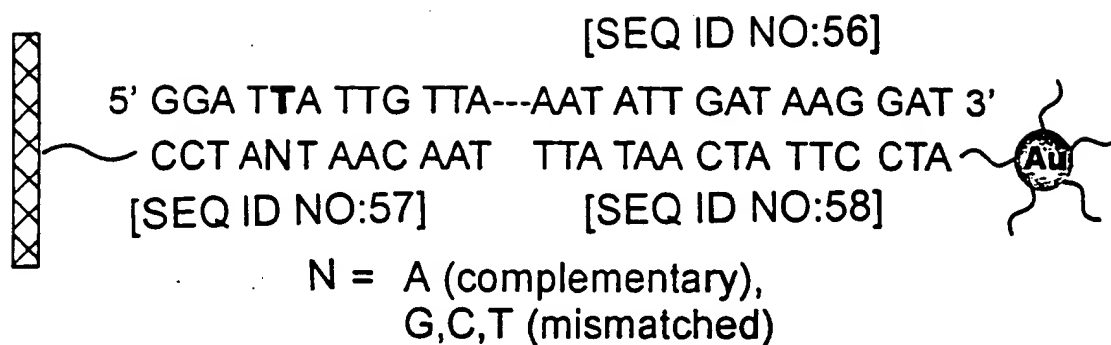


Figure 32

Figure 1 displays a 2x4 grid of stimuli. The stimuli are labeled A through G. Row 1 contains stimuli A, B, and C. Row 2 contains stimuli D, E, F, and G. Stimuli A, B, and D are white rectangles. Stimulus B has a black border. Stimulus C is a black rectangle. Stimulus E is a white rectangle with a black border. Stimulus F is a black rectangle. Stimulus G is a white rectangle.

Figure 33

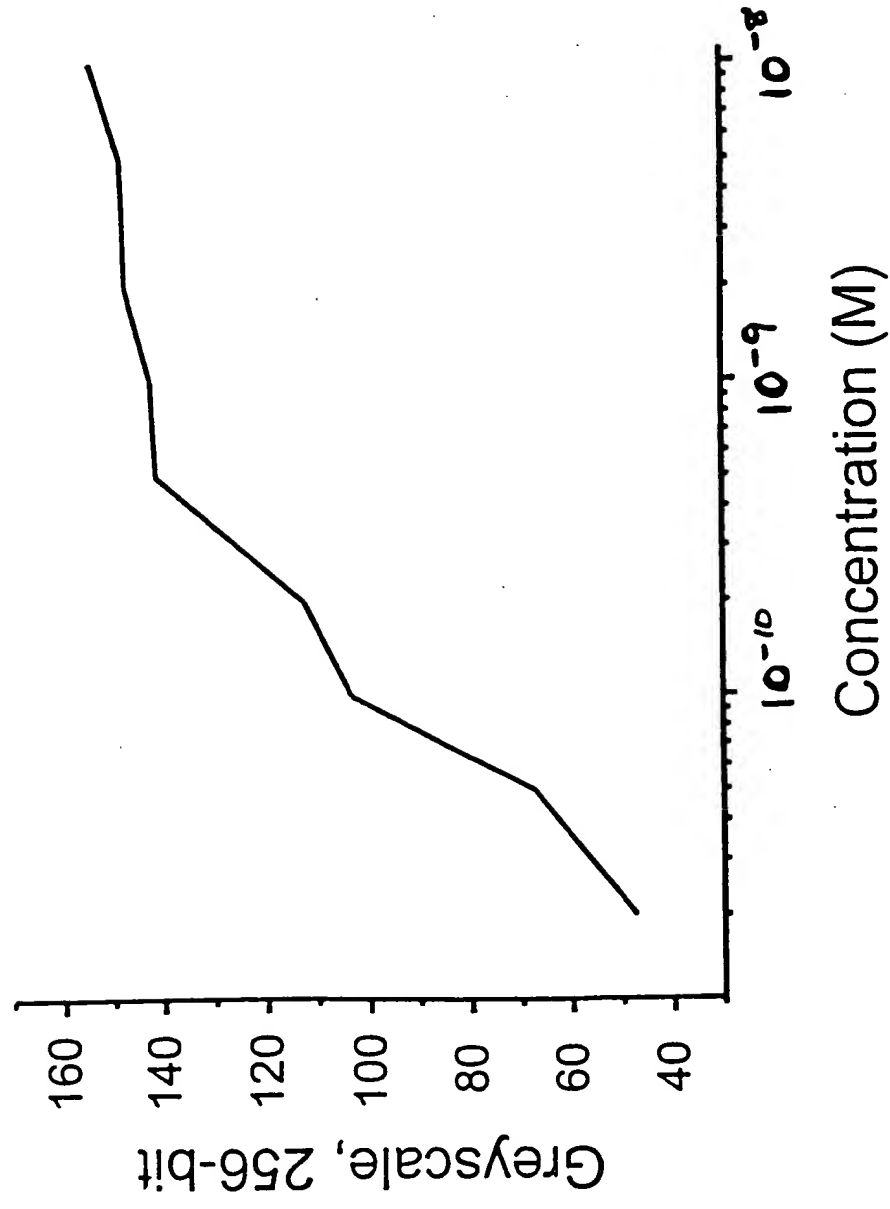


Figure 34

Percent Hybridized Label



Figure 35

09976649-101204
FOI b7E b7F b7G

FIG. 36A

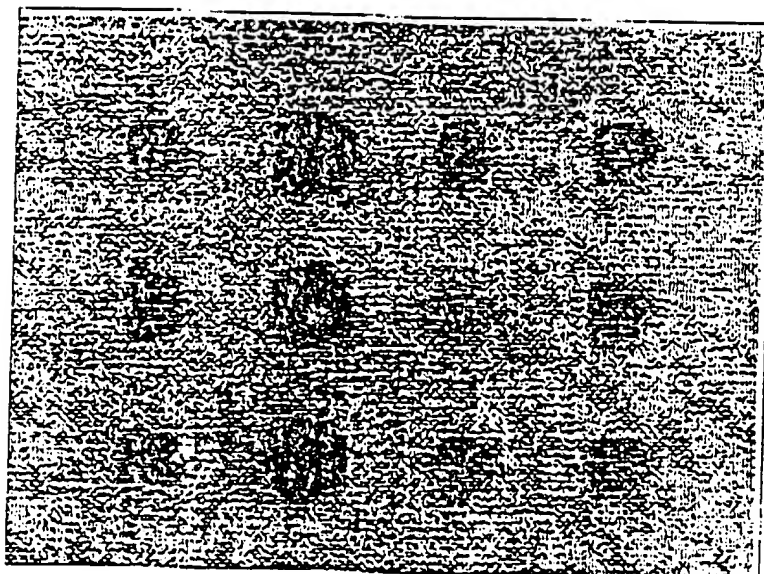
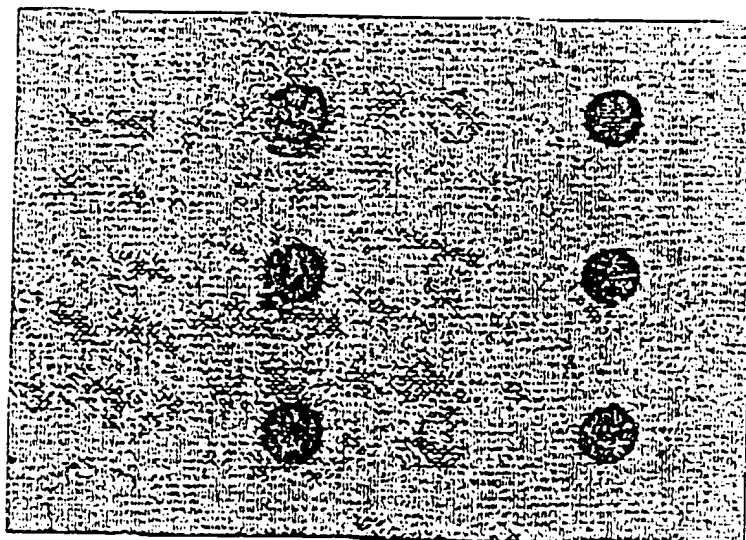
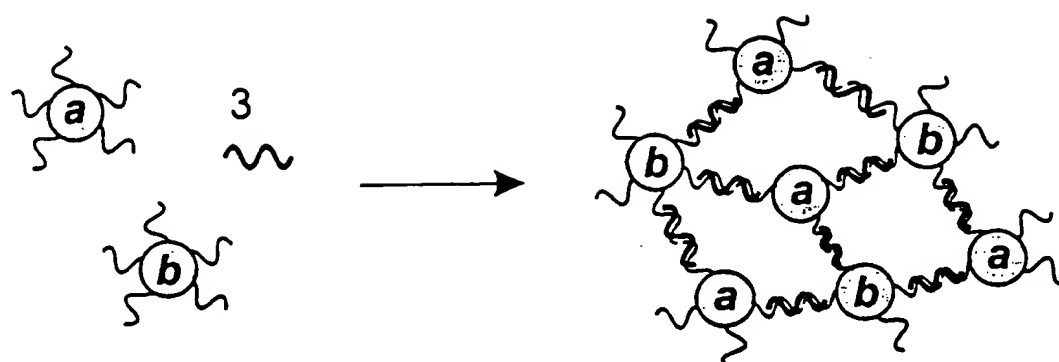


FIG. 36B



C A T G

A



B

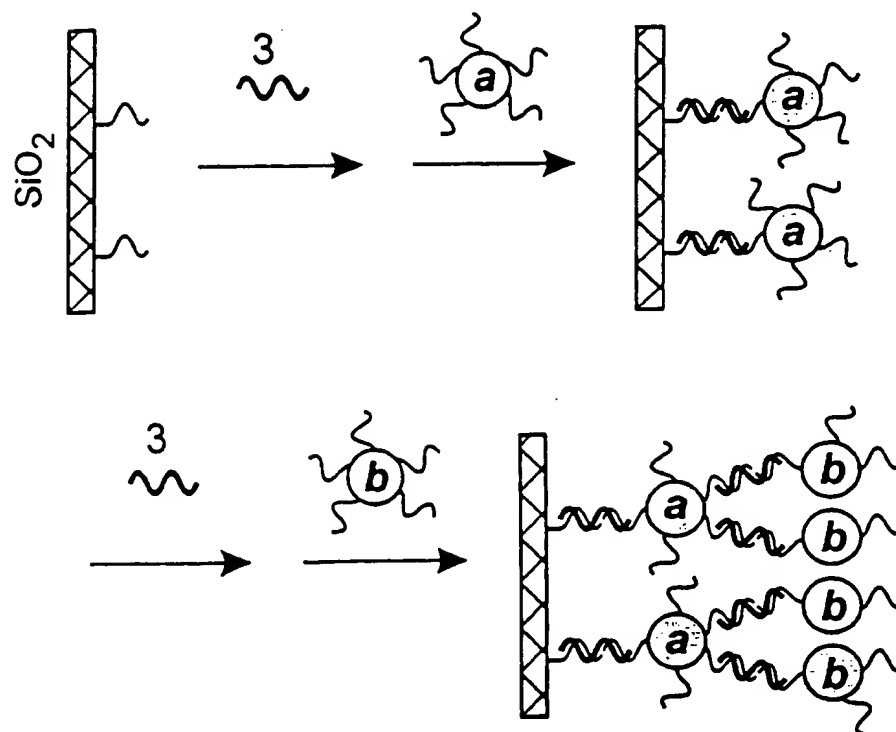


Figure 37

FOOT-343460

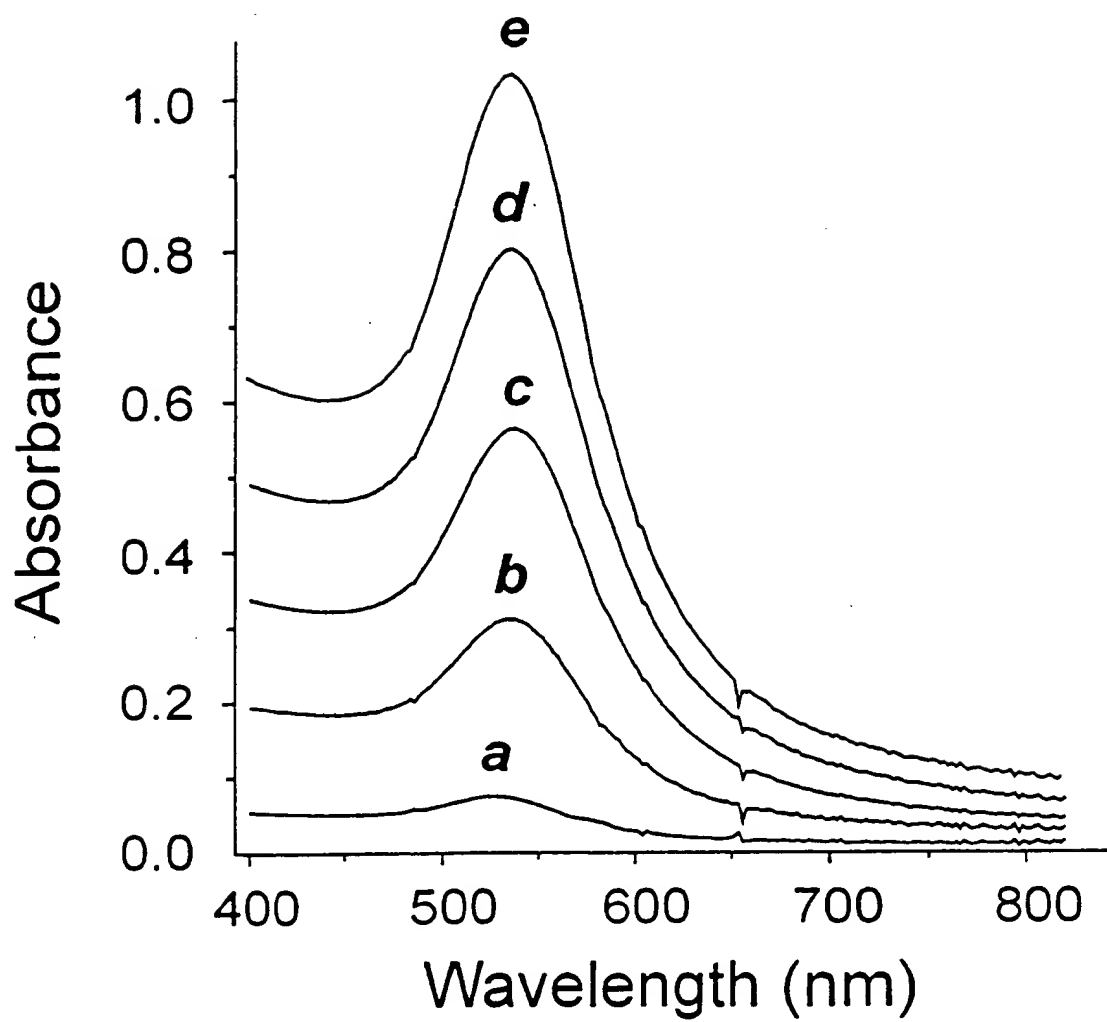


Figure 38A

Number of layers	Absorbance at λ_{\max}
1	0.07
2	0.31
3	0.55
4	0.80
5	1.03

Figure 38B

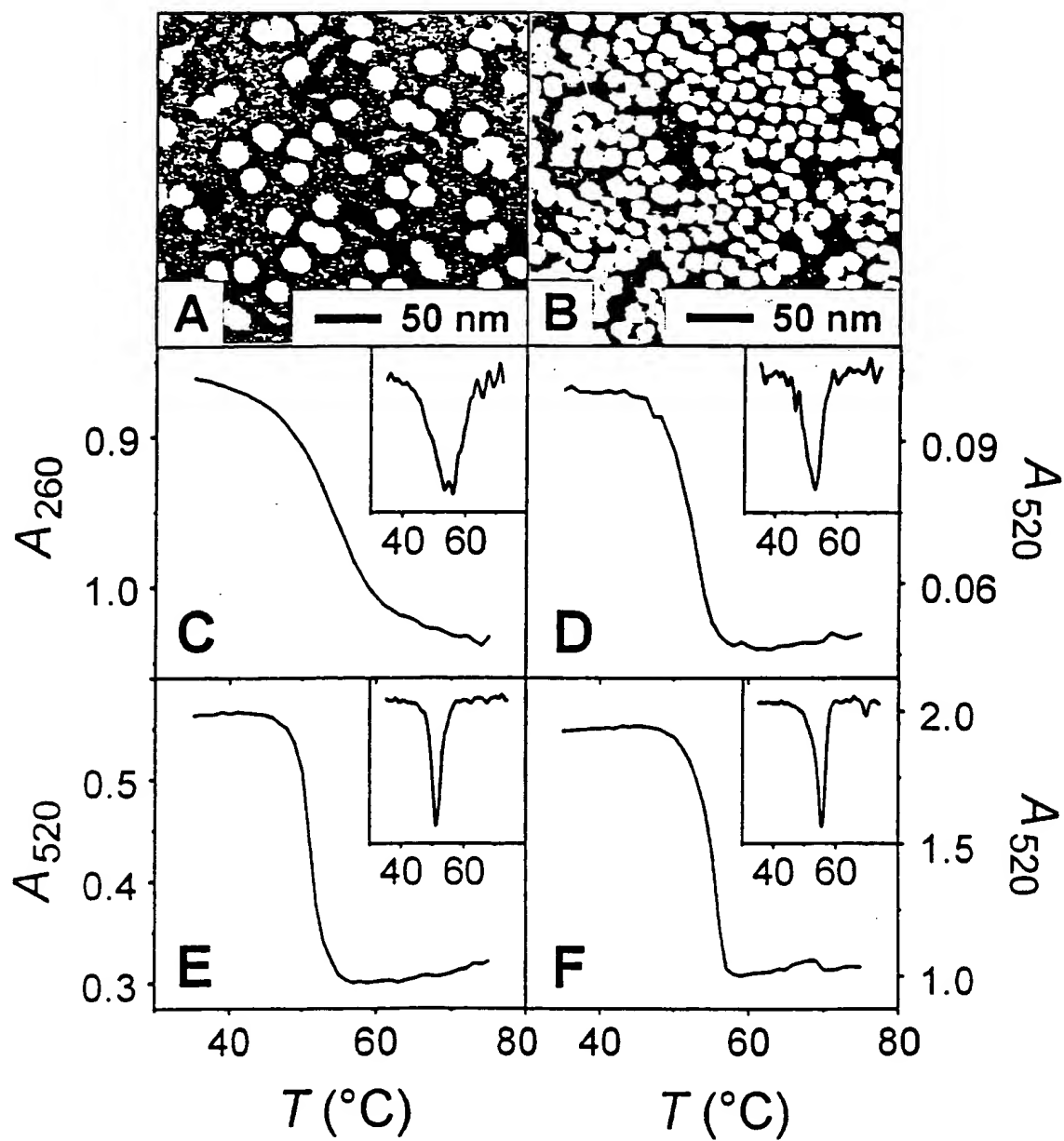


Figure 39

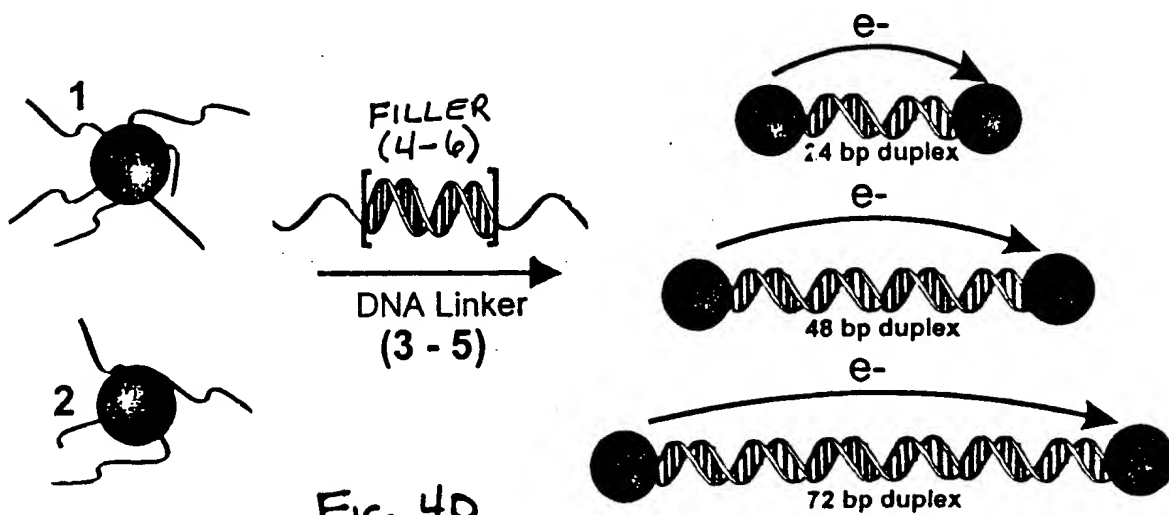


FIG. 40

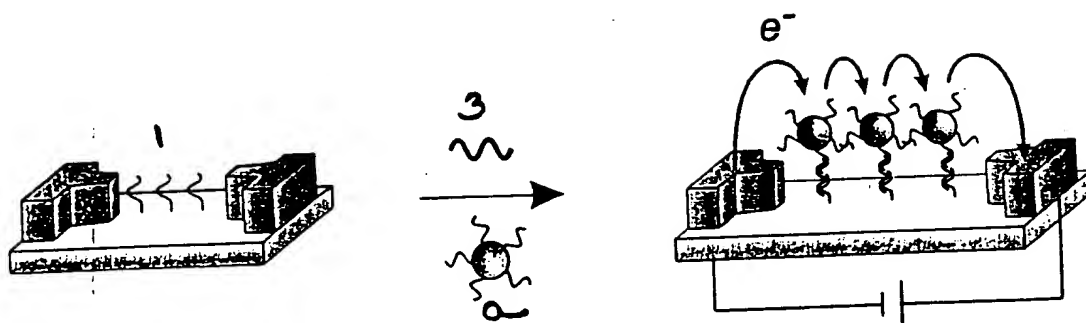


FIG. 41

00076649 404204